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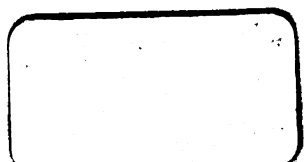
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THE
GLASGOW MEDICAL JOURNAL.

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ORIGINAL ARTICLES.

PSEUDO-HYPERTROPHIC PARALYSIS IN FOUR BROTHERS.

By DONALD MACPHAIL, M.D., WHIFFLET.

(With Two Photo-engravings.)

IN George P., aged 7 years, who has been photographed alone, the disease is of one year's duration; in Abraham P., aged 10 years, the standing figure in the group of two, it has existed for four years; while in John P., aged 14 years, who is shown seated, the disease has been present for eight years. These cases demonstrate in a very remarkable manner various stages in the progress of the disease, for in each of them it began at or very soon after the end of their sixth year, the difference in the duration of the disease in the different cases being exactly marked by the difference in the ages of the boys. The case I put fourth on the list is that of a brother who died some years ago at the age of 15, and whom I did not see. In him also the disease began about the end of his sixth year, and in his case too it passed through all the phases shown in the three living brothers. His case has had an important bearing on the diagnosis of these three, for the parents, who are intelligent people, having been vividly impressed by the fatal progress and termination of the disease in him, have paid very close attention to the onset and progress of the disease in the younger brothers, and are able to give a very exact and intelligent history of these cases.

George P., aged 7 years. Duration of disease one year. A year ago his parents noticed that he had begun to "walk on

his toes" in the same way as his brothers had done at the same age. He had always had a slight halt on the right side, but the change in gait was well marked and still persists. Though he has gradually but steadily got worse, he can still walk to a school nearly a mile away nearly every day. There are days, however, and they are occurring more and more frequently, when he feels so "stiff" in the morning that he cannot go to school in the forenoon, though even on these days he is usually able to go in the afternoon.

He stands pretty straight and without any "straddle," being in fact slightly in-kneed, with his knees slightly bent. When he stands the spine is not unduly curved, but he spreads and slightly over-extends his toes. At the demonstration before the Pathological and Clinical Society, when he was made to stand on a table, he stood with his feet a good deal farther apart than he usually does, and bent his body forward from the hips, but still without any approach to lordosis; his equilibrium was also much less stable than usual. The bending forward then was owing to "stiffness" due to his having been kept sitting in a cab during a ten miles' drive into town, while the unusual degree of "straddle" and instability were due to the slipperiness of the surface of the polished mahogany table. When he was allowed to stand on the carpeted floor, these features were much less marked.

The calves do not appear very prominent, but are very tense and hard; the greatest circumference of the right calf is $9\frac{1}{4}$ inches, of the left 9 inches. The hamstring tendons are very tense, and the parents state that this was one of the first symptoms noticed in him and in the other boys. The erector muscles of the back are also firm and tense. His general development is good; he is not very plump, but there is no appearance of muscular emaciation.

He walks without rocking gait, but moves stiffly, stepping on his toes, with his knees slightly bent and adducted. When he walks deliberately, and is told, however, he can set his feet down pretty flat. From his peculiar method of progression and tendency to bend forward, he can run much more easily than he can walk. He trips and falls easily when walking or running, more easily, perhaps, when walking, and is very easily upset when standing, a failing of which his school-fellows have taken full advantage for some months past. He can rise from the prone or supine position without noticeable difficulty.

He is sharp and intelligent, and takes a good position in the classes at school. His facial expression is good. His mouth is kept more open than it used to be, and he has latterly been

much annoyed by dribbling of saliva when he is in bed. He can move and wrinkle up his lips perfectly well, however, and articulates perfectly. General cutaneous sensibility normal. Patellar tendon-reflex normal. There has not at any time been, nor is there now, any pain or muscular tremor or twitching.

His general health is, and has always been, good. There has been no trouble with the rectum or bladder.

Abraham P., aged 10. Duration of the disease four years. The disease began at the same age and in the same manner as in George. Enlargement of the calves was noticed three years ago, and the characteristic "straddle" and rocking gait became well marked a year ago. He has been unable to raise himself from a lying posture for the last nine months; before that he could do so in the manner peculiar to this disease. He moves about the house all day, but has not been able for some time to walk many hundred yards without resting, and cannot even attempt to run.

He stands with his feet wide apart, grasping the ground with his toes, the heels being scarcely in contact with the ground. There is well marked lordosis, with prominence of the abdomen and tilting forward of the upper part of the pelvis. This is not well shown in the illustration owing to his brother's grasp having dragged him slightly forwards.

The calves are large and hard; the greatest circumference of the right is 10 inches, of the left $9\frac{1}{2}$ inches. The hamstring tendons are not so tense as they are in the younger brother, though they are said to have been quite as much so at one time. The buttocks are probably not far short of normal in size, but are decidedly flabby. All the muscles of the back are considerably atrophied, except the supra-spinati. There is well marked muscular atrophy all over the thorax and upper arm, except that the deltoids have escaped. They are not, however, unduly large or firm. The forearms and hands are lean but not emaciated, and he has full use of his hands.

He walks with the peculiar straddling, rocking gait, characteristic of a typical case of pseudo-hypertrophic muscular paralysis. He trips and falls very readily, even upon a smooth floor, from his toes catching and doubling under his feet; owing to this his toes are almost always inflamed or even ulcerated at the tips. When he is standing the slightest touch upsets him, or rather causes him to fall in a heap on the ground. He cannot stand with one foot the least in advance of the other.

He is sharp and intelligent, and though his face has a "flat,"

pallid look, very suggestive of facial paralyses, the facial muscles respond promptly and thoroughly to emotional stimulus, and he can articulate and whistle perfectly well. His lips are kept habitually closed, and there is no dribbling of saliva in his case. General cutaneous sensibility normal. There has been no pain, or muscular tremor, or twitching observed. Patellar tendon-reflex absent from both sides.

General health good. For the last year or two he has had at intervals of several weeks "bad turns." He becomes slightly feverish, becomes scarcely able to walk at all, and is confined to bed for a few days. There is no cough, dyspnoea, or any other definite symptom of illness, and after the rest in bed he gets up and about again. His mother thinks that the disease makes little or no progress between these attacks, but is always a little worse after each of them, and her close and intelligent observation of the cases makes me inclined to accept her statement. He has had one of these "turns" since the demonstration before the Society, and it is undoubtedly the case that he is worse now than he was then, especially in regard to stability in standing. I saw him during the attack, and could not, by careful examination, discover more than slight feverishness, furring of the tongue, loss of appetite, and very decided weakness. I may mention that in the case of George, described above, no such "bad turns" as these have yet been observed.

In this boy, also, there has been no trouble with the bladder or rectum.

John P., æt. 14 years. Duration of disease 8 years. In this boy the earlier stages of the disease took the same character as in the two younger brothers, while for the last four years he has been unable to walk, or even stand. Early in the history of the case the loss of muscular power was so far in advance of the loss of muscular substance that the school authorities refused to allow him to cease attendance, and his mother had for many months to carry him on her shoulders to and from school. She states that the "wasting" only became very noticeable about four years ago.

He sits on a stool by the fireside all day with his back bent, thighs widely abducted, and knees bent, as shown in the illustration.

His back is bowed, from occiput to sacrum, so much so that while his head is leaning forward he actually sits on his sacrum with the upper part of the pelvis so tilted backwards that the pubis is almost horizontal. He is quite unable to sit erect, and has become so set in his bent attitude that even

when he is raised by the shoulders the curve of the spine is lessened only to a very slight degree. He is so doubled up that in front there is a deep sulcus between the abdomen and thorax, with the borders of the lower ribs overhanging on each side. It is difficult to find with any certainty where the stomach lies; but from the very decided deep tympanitic percussion note found *beneath* the sulcus, and the fact that some swelling is observed there after nearly every meal, it seems not improbable that the stomach is displaced into the hypogastrium and lower part of the epigastrium.

His head is habitually bent forward, and he can only raise it to a slight degree.

The lower limbs are very much wasted, except the calves, which, however, are very soft and flabby (greatest circumference on each side is 9 inches). All the tendons are tense and rigid; the tensor vaginæ femoris on each side is very tense and prominent, but from the feeling to palpation it is probable that very little of the muscular structure remains. The thighs are widely abducted, and on comparing their axes with that of the pelvis it will be seen that while they appear as he sits to be semi-flexed, they are in reality, to a considerable degree, extended on the pelvis. He cannot bring his knees together, and it is only in proportion as the thighs are flexed that the knees can be approximated. When in bed he lies on his side quite doubled up, with his knees together, but nearly on a level with his chin. The knee-joints are rather more than semi-flexed, and are quite immovable. The right foot is in a condition of talipes equino-varus, the left in one of talipes equinus. In both, all the tendons show very distinctly through the skin, and the great toe in the right is much over-extended.

The antero-posterior curve of the spine is a general one, but is most marked in the lumbar and lower dorsal regions. Muscular atrophy is marked all over the back, and over the most prominent part of the curve it is so advanced that on each side of the line of very prominent spinous processes, the tips of the transverse processes form a serrated ridge as distinct as the spines in a person of ordinary development.

The breast, shoulders, and upper arms are very much emaciated, with the exception of the deltoid muscles, which, however, are very soft and flabby. The forearms are not nearly so much wasted as the upper arms. The supinators longi, especially on the right side, are only slightly flabby, and are but little atrophied. The hands are lean, with the slack, prominent joints characteristic of partial paralysis and atrophy,

and the thumbs have the ape-like appearance described by Duchenne. The left upper limb is altogether less affected than the right. He can use the left hand and forearm pretty freely, but he can only bring his right hand to his mouth by a movement which demonstrates well the power of the supinator longus, and those muscles of the forearm which spring from the inner condyle of the humerus, to flex the elbow joint. He usually allows the hand to hang downwards, pronated, and with the wrist flexed. When he wishes to raise it to his mouth he first fixes the elbow on the knee, then firmly flexes the fingers, brings the hand into supination, and then raises it slowly and laboriously to his head. He cannot flex the elbow except with the hand in supination, nor with the fingers extended, unless they are kept straight by another person, and then he slightly flexes the wrist joint.

Considering his lack of education his intelligence is good, though his expression is dull, owing to a decided degree of facial paralysis existing, most marked about the lower part of the face. Dribbling of saliva is troublesome in this case, though he can articulate fairly well.

General cutaneous sensibility is good. His feet and legs are very apt to become livid and cold if they are not carefully protected, and he feels the cold in them keenly. In this case, as in others, there has been no pain, or muscular tremor, or twitching. His appetite and general health are good, and have always been so, with the exception of "bad turns," exactly the same as those described as occurring in Abraham. These began about the same time as they did in him, and recurred at similar intervals, but ceased when the disease had reached about the same stage as it now has in him. Their influence upon the progress of the disease, the mother thinks, was also similar.

There have been no bladder or bowel symptoms, though now any unusual excitement, such as being stripped before strangers, is apt to cause the involuntary escape of a few drops of urine, which may be regarded as abnormal in a boy of his age.

The fourth case in the family occurred in the eldest son, who died some years ago, before the birth of the younger brothers. In him the disease began at the same age as in these three boys, and passed through the same stages. He died at the age of 15, and had been for eight years in very much the same condition as John is now. Death was almost sudden, with great dyspnoea and tracheal râles. Up to a day before his death he seemed as well as usual.

The mother is aged 46, is strong and well developed, and has "never had an hour's sickness." She has a large circle of relations, who have all been very healthy, and among whom such a thing as paralysis or fits of any kind has been unknown.

The father is supposed to be about 55. He is suffering from paralysis of the lower limbs. I have not been able to see much of him, but the history and symptoms, so far as I know them, seem to point rather to "descending sclerosis" of the spinal cord. There is marked rigidity of the lower limbs, a certain degree (increasing) of contraction, and very marked shooting pain and severe twitches, which often awaken him at night. He is unwilling to admit that the disease has been present for more than twelve and a half years, but his wife states that he halted slightly and tripped easily before their marriage, and that he steadily but very slowly became worse. The progress of the disease seems to have been hastened by a hurt received from a fall of stone in the coal-pit where he worked about twelve years ago. His relations have all been healthy.

There have been nine children in the family, six boys and three girls. Four of the boys are accounted for above. Another boy, aged 16, a miner, has been affected a year and a half with symptoms similar, I am told, to those seen in the father—viz., lameness, most marked in the right leg, slowly increasing stiffness, flashing pains, and marked twitching. I have only seen him once, however, and only for a few seconds. The remaining brother died aged 9 years, of dropsy and "disease of the bowels." Of the three sisters only one is alive, aged 21 years; she has always been strong and healthy. One was drowned, aged 8 years, and the other died at the age of 4 years, of scarlet fever.

EXPLANATION OF PLATES.

The first photograph represents George, aged 7, duration of disease under a year. The other two represent Abraham, aged 10, duration of disease four years; and John (sitting), aged 14, duration of disease eight years.

HÆMORRHAGIC DIATHESIS IN THREE GENERATIONS.

By JAMES FINLAYSON, M.D.,

Physician and Lecturer on Clinical Medicine in the Glasgow Western Infirmary.

THE following case is of interest chiefly on account of the very clear history of the family, which was obtained from the parents of the child. The hereditary tendency was clearly traceable in the female line, although the disease itself never appeared in the female members of the family. This appears to be usually the case in this curious affection. (See the admirable "Treatise on Hæmophilia, sometimes called the Hereditary Hæmorrhagic Diathesis," by Dr. Wickham Legg, London, 1872.)

In this family the arthritic complication seems to have been associated with the hæmorrhagic affection in all the cases occurring in the various families, so far as known, and it was supposed always to affect the right side in particular; of course the information on this point could not be expected to be very reliable. It is likewise noteworthy that none of the females in the family, even those who transmitted the hæmorrhagic tendency to their offspring, had ever been affected with profuse flooding during menstruation or at parturition. The patient's mother came from Lancashire, and most of the other members of the family affected with the disorder had lived there; the boy's father, however, was a native of Scotland.

William W., æt. 8, was admitted to the Western Infirmary on 14th January, 1882. He had been affected with a tendency to bleeding all his life, and also with painful swellings of the joints; and latterly also with stiffness of the right elbow and knee. He was born prematurely at the eighth month. From some malpresentation he was delivered by the feet, and on birth he was found to have a large discoloured mark, as if from bruising, on the brow. There was no hæmorrhage from the umbilicus at the separation of the cord, and no troublesome bleeding occurred at vaccination when five months old.

When still less than eighteen months old he was found to have large swellings from effused blood, very readily produced on the occurrence of very slight or moderate injuries; and this peculiarity continues so that at present

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such discoloured marks are visible. On at least four occasions, if not more, he has suffered severely from bleedings after injury. Once when his toe nail was smashed by a piece of broken slate the blood streamed freely while taken to a surgery; it was stopped there by some application but soon broke out afresh, and was very troublesome. On another occasion the frenum of the upper lip was torn, and the bleeding was very troublesome; it was arrested by caustics, but broke out again and again, continuing for a fortnight and reducing him extremely. Another time he bled profusely from an injury to his brow. *There have never been, at any time, any hæmorrhages, in any form, apart from injuries, so far as known.*

While still a baby he began to suffer from the joint affections, the joints swelling up quickly and becoming very painful; at these times he seemed feverish and fretful, often screaming much. These articular affections might depend, at times, on injury—such as an ordinary fall on the floor—but at other times they seemed clearly independent of any such accident. The duration of the swellings varied from a few days to perhaps six or seven weeks; after running their course the swellings disappeared and left the joints as well as before. Within the last two years, however, it has become plain that the joints are permanently altered; the ends of the bones seem somewhat enlarged, the right knee is slightly bent, so that the boy limps in walking, and the right elbow is so stiff that the boy has become left-handed. He also leans over to the side in standing or walking, probably from the joints being affected.

The boy is slimly made, his complexion is pale and delicate looking, the blue veins are readily seen on the brow, the hair is lightish brown, and the eyes are grey. An examination of the fundus oculi, by Dr. Reid, showed nothing abnormal. The urine throughout his stay in the wards was free from blood or albumen. The liver and spleen were of normal size, and the heart's sounds free from murmur. An examination of the blood by the microscope failed to detect any peculiarity in the corpuscles.

The patient had passed through measles and scarlet fever when three or four years old, and had made a good recovery from both.

The family history is shown in the diagram; it was given with details as to names, &c., with evidently great accuracy.

During his stay for about ten weeks in the ward, ample opportunity was afforded of confirming the parents' account

of their boy. A troublesome bleeding occurred from the gum near the stump of a decayed tooth; this continued oozing for a long time although plugs were applied; ultimately, the plug had to be firmly applied by tying the jaws together.

JANUARY.					
From	A.M.	P.M.	From	A.M.	P.M.
14th		99°	21st	98°	98°
15th	98·8°	99°	22nd	98·2°	99·4°
16th	98·8°	98·8°	23rd	98·4°	98·8°
17th	98·8°	99°	24th	98·8°	98·4°
18th	98·8°	98·8°	25th	98·6°	
19th	98·8°	98·6°	26th	98·6°	99·2°
20th	98·8°	98·4°	27th	98·8°	98°
21st	98·2°	98·4°	28th	99°	99°
27th	98·8°	98·4°	MARCH.		
28th	98·6°	99°	1st	99·6°	98·4°
29th	98·6°	98·6°	2nd	98·2°	99°
30th	98°	98·6°	3rd	98·6°	99·4°
31st	98°	98·6°	4th	99°	98°
FEBRUARY.			5th	99·6°	99·8°
1st	99°	99°	6th	100°	99°
2nd	99°	99·2°	7th	99°	98·4°
3rd	98·6°	98·8°	8th	99·2°	99·4°
4th	99°	98·4°	9th	98·6°	99°
5th	98·6°	98·4°	10th	99°	99°
6th	98·4°	98·8°	11th	98·8°	99°
7th	98·6°	98·8°	12th	98·8°	99°
8th	98·8°	98·6°	13th	98·8°	99°
9th	98·2°	98·4°	14th	99·6°	99·4°
10th	98·2°	98·4°	15th	99°	100°
11th	98·6°	98·8°	16th	99°	99·2°
12th	98·4°	98·8°	17th		99°
14th	98·6°	98·6°	18th	98·8°	99°
15th	98·4°	99°	19th	99°	98·6°
16th	99·2°	98·4°	20th		98·8°
17th	98·6°	99·4°	21st	98·6°	98·4°
18th	98·6°	98°	22nd	98·6°	98·6°
19th	98·4°	99°	23rd	98°	98·8°
20th	99°	98°	24th	98·6°	98·6°
			25th		

Many arthritic attacks occurred. These were not limited to the right side, but affected the left elbow, knee, and ankle joints as well as the same joints on the right. The attacks were characterised by pain and then by swelling; the swelling was sometimes very considerable and often very markedly

fluctuant; occasionally a little discoloration could be seen near the joint affected. It is certain that some of the attacks occurred quite apart from any recognisable injury; there was no special heat in the joint, and no elevation of the general temperature.

While in the ward preparations of iron were administered, but the boy seemed to be getting paler, and so he was recommended to go to the country or coast as soon as possible.

SANITARY LEGISLATION AND THE DUTIES OF THE MEDICAL PROFESSION IN RELATION TO THE PUBLIC HEALTH.

By EBEN. DUNCAN, M.D.,
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School, Glasgow.

*Lecture introductory to a course on Hygiene and Public Health delivered
6th May, 1882.*

(Continued from page 437, vol. xvii.)

The first report issued by Dr. Farr, in 1839, exhibited, in a general survey, the excessive and increasing mortality of our large city populations. Corroborative evidence was also furnished about the same time by the reports of the new Poor Law Commissioners, and an enquiry was ordered into the health of the labouring population of England and Scotland. The two important volumes which were issued as the result of this enquiry contain—1st. The extended experience of the medical officers of the new poor law administration; 2nd. Special reports on the causation of fevers, from a few eminent practitioners in the large towns; 3rd. The information which the new department of the Registrar-General afforded as to the causes of mortality. I shall read you an extract from the Scotch report on the condition of Glasgow in 1842.

“In Glasgow, which I first visited, it was found that the great mass of the fever cases occurred in the low wynds and dirty narrow streets and courts, in which, because lodging was there cheapest, the poorest and most destitute naturally had their abodes. From one such locality, between Argyle Street

and the river, 754 of about 5,000 cases of fever which occurred in the previous year were carried to the hospitals. In a perambulation on the morning of 24th September, with Mr. Chadwick, Dr. Alison, Dr. Cowan (since deceased, who had laboured so meritoriously to alleviate the misery of the poor in Glasgow), the police magistrate, and others, we examined these wynds, and, to give an idea of the whole vicinity, I may state as follows:—

“We entered a dirty low passage like a house door, which led from the street through the first house to a square court immediately behind, which court, with the exception of a narrow path around it leading to another long passage through a second house, was occupied entirely as a dung receptacle of the most disgusting kind. Beyond this court the second passage led to a second square court, occupied in the same way by its dunghill; and from this court there was yet a third passage leading to a third court and third dunghheap. There were no privies or drains there, and the dungheaps received all the filth which the swarm of wretched inhabitants could give; and we learned that a considerable part of the rent of the houses was paid by the produce of the dungheaps. Thus, worse off than wild animals, many of which withdraw to a distance and conceal their ordure, the dwellers in these courts had converted their shame into a kind of money by which their lodging was to be paid. The interiors of these houses and their inmates corresponded with the exteriors. We saw half dressed wretches crowding together to be warm; and in one bed, although in the middle of the day, several women were imprisoned under a blanket, because many others who had on their backs all the articles of dress that belonged to the party, were then out of doors in the streets. This picture is so shocking that, without ocular proof, one would be disposed to doubt the possibility of the facts; and yet there is perhaps no old town in Europe that does not furnish parallel examples. London, before the great fire of 1666, had few drains, and had many such scenes, and the consequence was a pestilence occurring at intervals of about twelve years, each destroying at an average about a fourth of the inhabitants. . . .

“Several intelligent inhabitants of Glasgow stated that they were persuaded if any capitalists would buy the ground of these wynds, and pull down the houses to substitute better houses in wide streets, with good drainage, the increased rental would make the speculation, even to them, very profitable, while the saving to the community of the cost of supporting the wretched widows and orphans of men who die of the

diseases generated in the place would exceed the amount of any rent which the property could produce." This very remedy which was suggested by several intelligent citizens in 1840 was, as you are aware, carried out by the city authorities thirty years subsequently.

I also find, in the same volume, an interesting paper on the state of the law in 1840, as regards the abatement of nuisances and the protection of the public health. In those days it was a very difficult and costly matter to get a nuisance removed. A case is cited in which an action began in 1834 did not terminate till 1839, and the costs on one side alone amounted to £3,500.

These reports, for which we are indebted to the energy of the veteran sanitarian, Mr. Edwin Chadwick, were the starting point of fresh Parliamentary enquiry and fresh legislation. Sir Robert Peel issued a Royal Sanitary Commission to enquire into the state of the large towns and populous districts, and by this means accumulated a mass of fresh details. In the case of 50 sample towns, an excessive mortality was traced to defective drainage, overcrowding and abounding impurities of earth, air, and water, and instances were brought to light in which the removal of such causes had led to a greatly reduced death-rate. The opinions of eminent men were taken in evidence as to the non-sufficiency of the existing sanitary laws, and suggestions were received as to the necessary amendments. The report and recommendations of this Royal Commission exercised a great influence on the course of subsequent legislation. An influential voluntary association was formed in London under the name of the "Health of Towns Association." Its objects were:—1st. To diffuse information as to the physical and moral evils which resulted from the insanitary conditions disclosed by these various reports; 2nd. To correct misapprehension as to the cost of sanitary measures; 3rd. To promote local sanitary enquiries and improvements. This agitation was carried on by pamphlets, lectures, signed petitions to Parliament, and the formation of branch associations in all the large towns. It led also to the issue of the first *Sanitary Journal*, which was edited by an enthusiastic health reformer of that day, Dr. John Sutherland, of Liverpool. The names on the committee of this association show the hold which the subject of sanitary reform had taken of the public mind. We have not only in this list such well known medical men as Sir James Clark, Mr. Simon, Dr. Guy, Mr. Joseph Toynbee, and Dr. Southwood Smith, but also a large number of noblemen, members of

Parliament, and other persons of social and political importance. I was interested in looking over the list to find the name of Benjamin D'Israeli, Esq., M.P., whose interest in sanitation was so well known in the later years of his wonderful life.

From 1832 till 1848 a number of important health measures were sanctioned by Parliament. But the reports and the public agitation to which I have referred led to the first great and comprehensive measure of sanitary legislation—the Public Health Act of 1848. This Act, which applied only to England and Wales, was largely permissive in character, and did not come into force in any locality unless petitioned for by ratepayers, or enforced by the central health authorities upon evidence of an exceptionally high death-rate. As the Privy Council was not thought to be looking after the health affairs of the nation in a satisfactory manner, a Board of Health was formed, consisting of three members, one of whom was paid. In 1850, after the second great outbreak of cholera, fresh powers were given to this Board of Health, and by the Metropolitan Interment Act a new paid member was added to the Board, who, strange to relate, was actually a medical man; which circumstance led to the clever criticism of Dr. Runsey, in the introduction to his essays on State Medicine, that they had appointed two lords and a baronet to manage the health interests of the nation, and now they had called in a physician to bury the dead. It would be wearisome to describe all the multifarious enactments, fragmentary and contradictory, which were passed by the Legislature during the next twenty years. They have been described as little dabs of doctoring done in several departments of government. The result was not by any means satisfactory, except that the experience gained by these failures paved the way for the Health Acts which are now in force—the Act of 1867 in Scotland, and the subsequent and fuller Act of 1875 in England. I show you a table of these multifarious Acts here; those which apply to Scotland are printed in italics.

The Scotch Acts were generally framed upon the model of the English Acts. The result of this method was that some of them were found utterly useless, having been framed so carelessly that they mixed up English and Scotch legal procedure, and referred to authorities which have no existence in Scotland. This rendered necessary the Health of Scotland Act which is now in force. It was passed in 1867.

EXCITING CAUSES OF SANITARY LEGISLATION.	RESULTING SANITARY LAWS.	CENTRAL AUTHORITY FOR ADMINISTRATION OF SANITARY LAWS.
<p>FIRST CHOLERA EPIDEMIC, 1831-32. Royal Commis- sion on the Poor Laws, 1832. Registrar-Gen. Returns as to Causes of Death. Reports of the New Poor Law Commissioners. Royal Sanitary Commission to enquire into the Condition of the Large Towns.</p>	<ol style="list-style-type: none"> 1. <i>Amendment of Quarantine Act, 1832,</i> . 2. <i>Lighting and Watching Act, 1833,</i> . 3. <i>First Important Amended Factory Act, 1833,</i> . 4. <i>Poor Law Amendment Act, 1834,</i> . 5. <i>Registration Act, 1836,</i> . 6. <i>Vaccination Acts, 1840-41,</i> . 7. <i>Removal of Nuisances Act, 1846,</i> . 8. <i>Baths and Wash Houses Acts, 1846-48,</i> . 9. <i>Towns Improvement Clauses Act, 1847,</i> . 10. <i>Towns Police Clauses Act, 1847,</i> . 	<p>Privy Council.</p>
<p>SECOND CHOLERA EPIDEMIC, 1849.</p>	<ol style="list-style-type: none"> 10. <i>PUBLIC HEALTH (ENGLAND) ACT, 1848,</i> . 11. <i>Nuisance Removal and Disease Preven- tion Act, 1848,</i> . 12. <i>Amendment do. do., 1849,</i> . 1. <i>Metropolitan Interment Act, 1850,</i> . 2. <i>Burial Act, 1853,</i> . 3. <i>Common Lodging-houses Act, 1851-53,</i> . 4. <i>Metropolitan Water Act, 1852,</i> . 	<p>Board of Health.</p>
<p>THIRD CHOLERA EPIDEMIC, 1854.</p>	<ol style="list-style-type: none"> 1. <i>Comprehensive Nuisance Removal Act, 1855,</i> . 2. <i>Diseases Prevention Act, 1855,</i> . Amendments 1860, 1863, 1866, . 3. <i>Local Government Act, 1858,</i> . Amendments 1861-1863, . 4. <i>Adulteration of Food Act, 1860,</i> . 5. <i>Alkali Works Acts, 1863-1868,</i> . 6. <i>Sewage Utilization Acts, 1865-1867,</i> . 7. <i>Sanitary Acts, 1866, 1868, 1870,</i> . Sanitary Loans Act, 1869, . 8. <i>PUBLIC HEALTH (SCOTLAND) ACT, 1867,</i> . Amendments 1875, . 9. <i>Factory Extension Act, 1867,</i> . 10. <i>Artizans and Labourers' Dwellings Act, 1868,</i> . 	<p>Reconstructed Board of Health.</p> <p>Privy Council and Medical Officer. Home Secretary. Medical Officer and Staff. Board of Supervision.</p>
<p>Royal Sanitary Commission of 1869-70.</p>	<ol style="list-style-type: none"> 1. <i>Local Government Board Act, 1871,</i> . 2. <i>Public Health Act, 1872,</i> . 3. <i>PUBLIC HEALTH (ENGLAND) ACT, 1875,</i> . 4. <i>Artizans' Dwellings (Scotland Act), 1875,</i> . 5. <i>Rivers' Pollution Act, 1876,</i> . 6. <i>Canal Boats Act, 1877,</i> . 7. <i>PUBLIC HEALTH (IRELAND) ACT, 1878,</i> . 	<p>Local Govern- ment Board. Medical Officer and Staff.</p>

Great advances have been made in sanitary matters since 1867. Amendments are required in the section relating to nuisances, and also in the provisions which deal with the prevention of contagious disease. Nevertheless, the Act is exceedingly comprehensive, and if its provisions were properly carried into effect, it would even now be fairly satisfactory. Unfortunately, the administrative authorities, both central and local, are quite incompetent to deal with such matters. It is, therefore, to a great extent, a dead letter, particularly in the country districts. The Board of Supervision is now the central authority of the health administration of Scotland. This Board, consisting of the Lord Provosts of Edinburgh and Glasgow, the Solicitor-General, three sheriffs, and three nominees of the Crown, who are laymen, was admirably constituted as the central authority of the Poor Law, which has to deal largely with legal questions, but not one of its members has necessarily any knowledge of health matters. The old blunder committed by the Legislature in 1848 has been repeated here, but they have not yet called in the physician to bury the dead. An extraordinary provision is found in the section of the Act which deals with the precautions to be adopted when the realm is threatened with the outbreak of a formidable epidemic or contagious disease. Under these circumstances the great profession of medicine, which has laboured so unselfishly, and achieved so much in the health interests of the nation, is still excluded from a voice in the deliberations of the Board of Health. It looks as if the framers of this Act thought that the germs of contagious pestilences might be threatened by the terrors of the law, because it is enacted that, under these circumstances, a fourth sheriff may be added to the membership of the central authority, to deliberate with the other legal luminaries on questions on which lawyers are not generally credited with any special knowledge.

With regard to local authorities, they consist of Town Councils, Police Commissioners, and Parochial Boards. With the exception of a few large towns, the districts over which the local health authorities have control are either too small in extent or too scanty in population to provide a proper sanitary staff. The result is that, as most of the provisions of the Act are permissive and not compulsory, about 400 of these local authorities have no medical officer of health, and many of them have no sanitary inspector. I think I may safely say that the members of parochial and urban boards in small places are themselves generally grossly ignorant of sanitary

matters, and quite incompetent to carry out the provisions of a Health Act. There is no provision made in the Act for the amalgamation of local authorities except for purposes of drainage, and, even here, the provision is again permissive, and is rarely taken advantage of. As the members of the board and the other influential persons in small towns or country parishes are often the greatest offenders against the public health, they do not usually wish to incur taxation for sanitary purposes, nor do they desire to encourage any active sanitary inspection on the part of their officers. They therefore give a trifle annually to men whom they elect to the position of health officer or sanitary inspector, irrespective altogether as to their qualifications for the office. These men are not expected to make any regular inspection of their district, but only act on compulsion on such rare occasions as the board in its ignorance or wisdom may see fit to direct. Although the central authority has framed an admirable code of bye-laws for the direction of medical officers of health it has not power to enforce the adoption of these bye-laws on the local authority. In the case of a Clyde watering place, a few years ago, the medical officer of the burgh was dismissed from his office and subjected to considerable persecution, because he had the courage to insist on the removal of a manure heap which the chairman of the board had placed on the top of an open jointed pipe which supplied the village with water, and so led to an outbreak of typhoid fever, which affected sixty of the unsuspecting summer visitors, and by which several people lost their lives. Even in the large towns, although the sanitary supervision is much better organised, the personal and local pecuniary interests of the magistrates are frequently placed before the public interest, in such matters as pollution of the air by smoke and chemical impurities, nuisances arising from manufacturing processes, which could be avoided by greater personal supervision of the workmen, or by a small additional expenditure which experience elsewhere has shown would repay the manufacturer. In these matters men who are committing the same offences sit on the bench as judges, and so the law is broken every day with impunity, to the great detriment of the public health. By local Acts, under the name usually of Police Acts, these large cities constantly seek to over-ride the common law, and become exempted from any effective supervision by the central authority. I have not time in this lecture to discuss the amendments which I consider necessary upon the constitution of the various health authorities. This matter is being taken up by the Glasgow Philo-

sophical Society. A Committee of that Society is at present engaged in drafting an Amendment Health Act for Scotland. Whether the labours of that Committee lead to any practical outcome in legislation or not, I have no doubt that it will do great good in drawing public attention to the serious defects of the Act of 1867. I shall now pass on to say a few words about the medical officers. When I tell you that there are 300 parishes in Scotland, with a population of less than 1,000 inhabitants, and that in 25 of these the population numbers less than 300, you can readily understand that in many cases the health officer's appointment is a nominal one. There is a parish in Perthshire with only 105 inhabitants, and yet this parish boasts of a registrar, an inspector of poor, who is also sanitary inspector, and a health officer.

In England there are no parochial health boards. The Union (a combination of several parishes), with its Board of Guardians, is the unit of local health administration. The central authority has the power to combine any number of districts, urban or rural, as may be deemed advisable for the efficient working of the Act. I find from the last report of the Local Government Board, which is the central health authority in England, that although there are 4,000 poor law medical officers, there are only 1,200 health officers. There are now a few large and populous unions in England which have combined for health purposes, and appointed a health officer with a sufficient salary, who devotes his whole time to the work of sanitation. There are also a few large cities where this arrangement is carried out. There can be no doubt that this system of combination into large districts is the best system for efficient supervision of the health interests of the community. The health officer under these circumstances is generally a man who has devoted special study to sanitary science before his appointment; and, being freed from the necessity of cultivating private practice, his interests do not conflict with those of the other medical men of the district, who therefore work more harmoniously with him in the public interest. As his appointment cannot be cancelled except with the permission of the central authority, upon evidence of misconduct or incapacity, he is able conscientiously and fearlessly to expose conditions dangerous to the health of the people, and to insist upon the removal of nuisances, even when these arise from the neglect or mismanagement of the local board itself. I think this system is certain to supersede the present system of appointing private practitioners to combined poor law and health duties in the small country parish, and

placing them under the control of the ignorant members of a petty parochial board. Even in the case of the comparatively large English Union, the Local Government Board of England have found that this is not a satisfactory arrangement, and in last report they say—"During the past year we have not failed to avail ourselves of all convenient opportunities for urging on the sanitary authorities the expediency of discontinuing such an arrangement." They find that the work is not well done. In the same report I find the following paragraph. "We still receive many reports which are little more than bare compilations of vital statistics, which show very imperfect appreciation of sanitary science, and which are easily recognisable as the production of medical practitioners who find themselves under the necessity of writing an essay on a subject to which they have devoted no special study. It is inevitable that this should be the case to some extent at present when the institution and functions of the medical officer of health are of comparatively recent date."

There is no official report to show the manner in which the duties of this important office are performed in Scotland; but there is no reason to suppose that, if the Scotch health officers were under the necessity of writing detailed accounts of the sanitary conditions of the burghs and parishes under their care, they would show any better work than their English brethren. I am afraid it would be the other way. There are at present seven medical schools in London in which a separate course of lectures is devoted to hygiene; but as far as I know, there is only one such school in Scotland. No doubt the teachers of forensic medicine in Edinburgh devote a few lectures of the course to public health; but according to present regulations a student may diligently sit at the feet of every Gamaliel who teaches in a Scotch university, and he may obtain a degree in medicine, without having received any adequate instruction in such important matters of domestic hygiene as ventilation, house drainage, or the principles which guide us in the destruction of the contagious germs of disease. It has always seemed to me a very extraordinary oversight on the part of our Government and its advisers, that in legislating for the health of the nation, and creating so many health offices over the length and breadth of the land, they should not have at the same time provided for the instruction of the medical men who were to fill these offices. Medical students are usually left to their own discretion in matters which are not essential to a legal qualification, and as Dr. Ramsay remarks, they naturally follow professors in the

bread winning employments of practical medicine and surgery ; and no man can undertake to teach at his own risk, with a prospect of adequate remuneration, a subject, a right knowledge of which, on the part of the medical profession, is indispensable to the public safety. The curative order of physicians has been permitted to take precedence of the preventive, and yet, to use the eloquent words of Mr. Simon—"Notwithstanding all that medicine can achieve to succour the body as it struggles against actual disease—notwithstanding those resources of drugs and handicraft by which the physician or surgeon opposes death or mitigates pain in the detailed exercise of his art, all past experience and every transaction of our daily practice confirm the popular adage, that 'prevention is better than cure.' While curative medicine, ministering step by step to the individual units of a population, can produce only minute and molecular changes in the health of society; Sanitary law embodying the principles of preventive medicine may ensure to the aggregate masses of the community prolongation of life and diminution of suffering; in the working of some single enactment it may affect the lives of generations of men, and may moderate in respect of millions the sources of orphanage and poverty. . . . In the great objects which sanitary science proposes to itself—in the immense amelioration which it proffers to the physical, to the social, and indirectly to the moral condition of an immense majority of our fellow-creatures, it transcends in importance all the other sciences, and in its beneficent operation seems most nearly to embody the spirit and to fulfil the intentions of practical Christianity."

ON CONTRACTION OF THE UTERUS AND POSTURE AFTER COMPLETED DELIVERY.

By G. KINLOCH H. PATERSON, M.R.C.P. Ed., L.R.C.S. Ed., &c., Perth.

It is not with any wish to change the ordinary side or back posture after delivery, especially in cases of a favourable nature, or when it is not required, that the present remarks have been penned; but rather to state that I have generally found, from the semi-erect posture, or by my method, far better results to follow than before in certain apparently dangerous after-labour cases; for example, as a preventive of threatening

septicaemia. These results have been gained without the use of ergot, antiseptics, or uterine or vaginal irrigations.

The following injunctions have seemed to my mind requisite for the carrying out the plan referred to, which I began in, and have had recourse to since, 1875.

The labour having been completed by the expulsion or extraction of the placenta, then (the patient being in the recumbent posture) carefully compress the uterus through the abdominal walls with the palmar surface of both hands, from above downwards to the pubes, until a sufficiently firm contraction is secured. Soon after doing so, the bandage is applied in the usual way, or with a pad. These points should previously be carefully attended to by every midwifery practitioner. The next step is to raise the patient from the recumbent to the semi-erect or nearly sitting posture for a few minutes—if possible, an hour—after completed delivery; or it may be deferred for several hours if the patient is found weak, and at subsequent visits also. This change of posture is first effected by the medical man if it is required, and repeated as often as deemed necessary by him.

This plan may be thought a bold experiment in midwifery practice, but, notwithstanding, most satisfactory results have followed since I introduced it into my own practice.

By it (or the semi-erect posture) I have had success “greater far,” and more speedy recoveries than before by the ordinary procedure; and I have never known or heard of the occurrence of any untoward accident, such as prolapse of the uterus, or syncope, hæmorrhage, puerperal fever, or internal bad effects of any kind. When the ordinary after-labour position, and the semi-erect posture are duly considered, it will be evident, and cannot fail to be convincing, that, when needed, by adopting the latter, the patient is put in the most favourable position for dislodging decomposed clots, foetid lochia, debris, and remains of membranes, &c.

The following case will so far show notably the advantage of the above plan. I attended Mrs. I., aged 46 years, and delivered her of a male child at full time. She was making a good recovery until the third day, when she felt a difficulty in passing water, with more or less pain. On examination, a portion of the membranes was found protruding from the orifice of vagina. This was removed by me, found to be in a putrid state, and nearly half a foot long. I attribute the descent and protrusion of this foetid material to my having enjoined the adoption of the nearly semi-erect posture daily; and I do not think that it could have been naturally removable had

not that been carried out as enjoined. Had it remained undiscovered and unremoved in the maternal passages, the case might have gone on to septic poisoning; as it was, she had a narrow escape of it apparently.

In conclusion, I am not aware of the above mentioned plan having been followed, or by any writer brought to the notice of the profession before me. I can confidently recommend it in suitable cases, in the manner I have already stated, for uterine drainage, after completed labour or delivery.

ON THE UNITY * OF POISON IN SCARLET, TYPHOID, AND PUERPERAL FEVERS; DIPHTHERIA, ERY-SIPELAS, SORE THROATS; CERTAIN FORMS OF DIARRHŒA, AND ALLIED AFFECTIONS; AND IN MANY OTHER AILMENTS HERETOFORE USUALLY CONSIDERED TO BE SEPARATE AND ENTIRELY DISTINCT DISEASES.

By DR. G. DE GORREQUER GRIFFITH,

Senior Physician to the Hospital for Women and Children; Lecturer on Diseases of Women and Children at the Zenana and Medical Mission Training School for Ladies.

"If a man be content to begin with doubts he shall end with certainties."—BACON.

"All scientific novelties are subject to inconsiderate criticism."—PASTEUR.

If it be contended that these so-called specific diseases require for their production, in every instance, the application in some way or other of a specific poison, so that no fresh case can arise except from germs or noxious elements emanating from a person affected with the so-called specific ailment (as from the fæcal excreta of a typhoid patient in the case of that fever), and that each stricken person must be preceded by another suffering similarly, I am led to ask, How then about the first case? Whence came it? How did it originate? That these various symptoms—or grouping of symptoms—to which are given for purposes of distinction the different names

* By unity is meant not that the poison is always the same, but that the one poison—the one *origo mali*—whatever it may be, will originate several so-called different affections.

of scarlet fever, typhoid, diphtheria, erysipelas, puerperal fever, and many other affections, are at times originated *de novo*, and each and all from the same source or sources, is abundantly proved in the experience of every medical man, and, since this is proved, therefore also is proved their non-specificity.

I cannot but quote the opening words of Spencer Wells on the great debate at the Obstetric Society (1875), on "The Relation of Puerperal Fever to the Infective Diseases and Pyæmia," to show the definition and view of puerperal fever, and the relation of erysipelas and the infective (zymotic) fevers.

"After searching for an accurate definition of the term puerperal fever, or for some short description of this as distinguished from other forms of continued fever, I have taken as the most accurate and comprehensive, the definition of a Committee appointed by the London College of Physicians, 'a continued fever communicable by contagion, occurring in connection with childbirth, and often associated with extensive local lesions, such as peritonitis, effusions into serous and synovial cavities, phlebitis, and diffuse suppuration.'"

Here, then, we are led to the conclusion that, in puerperal fever, we have a contagious continued fever, often associated with the important local lesions just enumerated—*not always, but often*—showing, I take it, a unity of origin, a differentiation of resultant symptoms. You may, according to the definition, have this contagious fever without these local lesions. "The poison may be so potent, or the dose so large, that it may kill before there is time for the development of the local lesion; or the dose may be so small, or the poison so feeble, that it only produces some transient elevation of temperature, some greater rate in pulse or respiration, some increased action of skin, kidneys, and bowels, and the morbid material is eliminated before any local lesion is established"—an explanation fully confirming the doctrine of unity of poison, differentiation of symptoms, while at the same time explaining the cause of differentiation. "But I must ask you," continues Spencer Wells, "if, in your experience, you ever saw such a case which could not, on careful inquiry, be traced to exposure of the patient to some one or other of the contagious or infectious fevers, to scarlet fever or diphtheria, to measles or small-pox?"*

If these diverse "specific diseases," as they are supposed orthodoxically to be, *all* produce the same result in lying-in women affected by them—viz., puerperal fever, of such a form

* This question is abundantly answered.

and character, that it bears no resemblance to the specific (?) fever, from which there is no doubt it has been contracted, is it not right to suppose that there is a unity of poison which will account for the same?

And does not this interchange and intercommunicability, this transmutation prove a unity of poison? "I need not remind you now how these diseases are intensified or modified by the puerperal condition." Differentiations in intensity and modifications dependent on the conditions of, and around the patient, her entire inward and outward surroundings, not because of any difference in the poison itself which lighted up the puerperal fever, the environments and general surroundings of the woman being the causes of the difference in the evolutions. "And," continues Spencer Wells, "I proceed to ask if, in any case, where puerperal fever could not be proved to be really scarlet fever, diphtheria, measles, or small-pox, occurring in connection with childbirth, it was not a traumatic or surgical fever, erysipelas, pyæmia, or septicæmia; the local lesions associated with the fever assuming rather a primary than a secondary importance in the chain of sequence." Here, what I have said about interchange and transmutation of disease, is applicable.

"Time does not permit to enter on the question as to *the sole dependence of erysipelas upon a specific marked poison*. Whether this peculiar inflammation of the skin and cellular tissue, tending to spread indefinitely, and preceded or accompanied by fever, *can arise from the spontaneous generation in the human body of a poison communicable by contagion, and may arise independently of any poisonous influence from without*.

"Erysipelas often attacks the parts concerned in childbirth, and the fever which accompanies it, intensified by the puerperal condition, is a very fatal form of *one of the diseases confounded together* under the term puerperal fever."

Farther on he speaks of "*diphtheritic exudation on the mucous membrane of the uterus and vagina, especially on the place of the separated placenta,*" occurring during puerperal fever. I have chronicled Spencer Wells' words regarding erysipelas in order to give herein the views prevailing in the profession, and I would throw upon others the *onus probandi* of showing that this opposing of views is other than a helping of our arguments.

Dr. Newman, of Stamford, said—"I was asked some months ago to see a woman supposed to be three or four months pregnant. She had been suffering for two months from

hæmorrhage, had lost so much, and her general condition was so bad, that one felt the only thing was at once to empty the uterus. This was done in the first instance by dilatation of the os uteri, then by manual removal of the foetus and secundines. Within three days she had rigor, and subsequently all the symptoms of pyæmia. She had an abscess on the shoulder joint, an abscess in the wrist, and not a few collections of matter in different portions of the body. That I should take as a type of cases where a morbid process—which we are satisfied to call puerperal fever, for want of a better term—had its origin in a direct local lesion that may have been produced by enforced dilatation and the forcible removal of the retained material.” I copy these words, because they so forcibly remind me of the suffering similar pyæmic conditions occasioned me after my last attack of scarlatina, and because they show an identity in the later symptoms of this woman with those existing in my own case after scarlatina—said attack of scarlatina having been induced, it was supposed, from a man ill (in the fever ward of the Meath Hospital, Dublin) with what was termed scarlatina throat—there being no other manifestation of scarlatina save some slight feverishness and general malaise—I being at the time run down with hard hospital work, and with long hours at dissection, to both of which I now attribute much of my illness at that time, the condition of the Hospital and dissecting-room atmosphere being favourable to septicæmic poisoning and the production of symptoms to which the name of scarlet fever is applied, and to which I give the name “toxæmic scarlatina,” to “distinguish it, as regards origin, from orthodox scarlatina.” “Given a woman,” continues Dr. Newman, “in whom all the processes—vital, nervous, circulatory, mental if you like—are materially excited and altered from their condition of reasonable health, in that phase alone we have much to look for in the way of an explanation of the reasons why *poisons that run a different or, at all events, a slower course under more ordinary states of every day life, run, when they have to deal with a parturient woman, a course of far more severity and far greater rapidity, and, unhappily, of far greater fatality.* These circumstances do unquestionably seem to me to play a material part in predisposing the system to the *virulent* development of septic poisons, however they happen to be introduced.” This bears me out in the reasoning of my papers, that the same poison affects the same person differently at different times of life and under different circumstances; and affects different persons differently, who

are differently situated as regards their outward circumstances and also their inward, owing to what we term individual peculiarities or idiosyncrasies.

Dr. Braxton Hicks says:—"Some have said puerperal fever was erysipelas, diphtheria, &c., (from the clinical or life symptoms); after *post-mortem* examination, according as one or other appearance was more prominent, so it was considered the essence of the complaint; thus peritonitis, enteritis, phlebitis, &c., were considered the real disease, *instead of being looked to as effect; these opinions prevented the observer from looking in the real direction*"—viz., the one poison which produced the various symptoms.

Dr. Braxton Hicks "found that out of 89 cases, 68 had been connected with animal poisons—more than three fourths; of these 68, more than half—namely, 37, had been connected with scarlatina; amongst the remainder, erysipelas, diphtheria, and offensive state of the discharges were prominent." He would exclude those as not being puerperal fever at all, but the affections of which they bore the stamp, occurring in a lying-in woman. He then asks the momentous question—one bearing significantly on the "unity of poison" in those so-called different ailments—"Where is the proof of the existence of a *separate* entity?" And the answer is also significant:—"When you *examine the symptoms belonging to the various classes, you will find that THEY ALL BELONG TO THE SAME CLASS.* . . . The specific symptoms were in all grades of proportions in the several cases" (differentiation of symptoms or resultant phenomena), "and, generally speaking, the less the specific signs showed themselves the more tendency was there to malignancy. THIS IS WELL SHOWN WHERE, ERYSIPELAS BEING THE PRIMARY CAUSE, THE DISEASE WHICH FOLLOWED WOULD BE MORE LIKE THE MALIGNANT PUERPERAL, AND LESS TO ERYSIPELAS." Interchange proving not diversity surely, but unity of originating materies morbi.

No doubt Dr. Hicks sees with me the unity of poison in those cases; the intercommunicability and interchange being strong proofs of it. I cannot but think it is obvious, and the following case, which he cites, is additionally confirmatory of the great truth:—"A woman was taken with most malignant *puerperal fever*, and died about the third day. I could find no history of scarlet fever previously, but in a few days *two of the children had malignant scarlet fever*, and died." This, to my mind, proves that the scarlet fever of the children was contracted from the malignant puerperal of their mother, a fact the occurrence of which I have referred to in a former

paper; or, that mother and children contracted the so-called different affections from one common source, the poison being developed, evoluted, and matured earlier in the mother, because of the peculiar state of her puerperal condition, more ripe for contracting, more ripe for developing, more ripe for maturing.

He also adduces the following, which more remarkably confirms my views:—

“A lady had been delivered twelve hours, when feverish symptoms commenced; a pile, already inflamed, became very tender and painful; from this a blush spread, something like erythema but without any defined edge, and spread over her back. About the third day arthritic pains and swelling commenced, with delirium; these symptoms increased in intensity, and she died in great agony on the fifth day. As the symptoms began so soon after delivery, I could not help suspecting that it had its origin from without, as the symptoms arising from decomposing secretions commence from the third to the fifth day. *I could not find she had been exposed to any exanthem.* Her medical man had not seen a case for two or three months. The nurse was apparently free. I, however, told the medical man I thought he would have evidence in the children. In about a week the eldest child had scarlet fever, and rapidly died; the second was then attacked, and shortly died; subsequently the baby was attacked but recovered. *In neither mother (of these two cases cited) was there any specific sign of scarlatina.*” To this case my comments on the former are equally and more forcibly applicable. “*Numerous cases I (Dr. Hicks) have seen where scarlatina was in the house, and the mother had puerperal fever WITHOUT ANY RASH.* In some of the other cases there were signs of a zymotic disease, yet they would have been overlooked had not care been taken, *so masked were they by the general condition.*” “The same applies to erysipelas.” “Looking over the whole cases, we are *unable to distinguish the symptoms*, as a class, the one from the other (causes of origin, he means, being different), excepting when the specific symptoms are superadded. . . .”

“Admitting that various circumstances can set up a malignant fever in puerperal women, has this fever so set up a permanent character capable of being communicated to other pregnant women? Hospital cases prove such *MAY* be. Looking to private practice, one would also say so too, did *we not see that, apparently WHEN IT SPREAD TO NON-PUERPERAL PERSONS, IT BECAME RECONVERTED TO THE ZYMOTIC FORM FROM WHICH IT HAD SPRUNG.*

Can any words more emphatically bear out unity of poison, differentiation of symptoms?

Dr. Hicks (*Obs. Trans.*, page 148, vol. xvii) is reported to have said in reference to Dr. Squire's remarks—"My observations have gone to show that *there is no rash, and that there are none of the permanent symptoms of scarlatina, when scarlatina has been unquestionably mixed up with the case.*"* He also said, in reference to his previously published cases:—"I found that nearly half were associated with scarlet fever; some of them were undoubtedly dependent on scarlatina; but erysipelas, diphtheria, mental emotions, were also associated. Erysipelas in lying-in hospitals was most common, perhaps more common than scarlatina in private practice. *I left it a clinical point not yet cleared up to explain these facts,*" and the whole object of these papers is to endeavour to do so. "My contention is," continues Dr. Hicks, "that *these women were suffering from the effects of the poison, which in others induced all the symptoms of scarlatina, pure and uncomplicated*—the symptoms of these women being those of *blood poison.*"

I think this record of Dr. Hicks goes far to confirm unity of poison, divergence of symptoms, the result of the evolutions on the patient of that poison.

Dr. Richardson having drawn attention to the peculiar physiological position of the childbed, said:—"From experiment as well as observation, *I should be unable to declare that there is any such thing AS A SPECIAL POISON creating puerperal fever.* It is quite true that *when puerperal fever is once started there is a poison formed which will apparently communicate the disease; but there are certain varied forms*" (of evolution and development, as shown by symptoms I take it) "*of this poison, though perhaps all these poisons have one common meaning if we could look at them CLOSELY.*"

As confirmatory of that part of the doctrine, that from unity of poison there is differentiation of symptoms, I quote his next words:—"Neither can we say that there are such local lesions as would lead us in the dissecting room in any case, to say, This was a case of puerperal fever. I recollect making a *post-mortem* some years ago in a case of what was called puerperal fever; there were

* I would not say scarlatina was at all present; but that in such cases the symptoms appertaining to each case were the result of evolutions of that toxæmia which had as its starting point the "scarlatina unquestionably mixed up with the case," but we cannot speak of scarlatina being present, if there be "no rash and none of the symptoms of scarlatina."

four eminent members of the profession present, and they were none of them agreed on the pathology. We then began to discuss whether, supposing this case were going before a jury, and we had to give our opinions, we could formulate in any way a series of pathological changes which would indicate the cause of death as being due to puerperal fever; or, to put it in another way:—Supposing one of us had said, "This is a case of puerperal fever; let us make a *post-mortem*," would any of us have known precisely what we were going to find as distinguishing this diagnosis? We decided we should not know!" Thus confirming, that even given the name of the disease, and even also the source of the poison, it would be impossible to say, owing to the differentiation which obtains, what would be the ultimate symptoms, or those occurring in the course of the evolving of the poison in the system.

Dr. Barnes said—"The meaning attached to puerperal fever is simply this—fever in a lying-in woman, the general term expressing a number of perfectly different conditions,—some produced by a zymotic poison, as scarlet fever (perhaps the most common of all) or erysipelas, or measles, or typhoid." Here, again, is laid down the interchange and intercommunicability—transmutations—which prove unity, &c. "The objection has been raised, and has occurred to most of us, How is it that lying-in women are especially prone to scarlet fever, the great majority of them having had scarlet fever at some previous period of their lives, and may be supposed, therefore, to be protected? And how is it that, all of a sudden, their protection breaks down under the trial of child-birth?" I would explain that the symptoms of scarlatina in those puerperal patients are due, in a great many cases, not to scarlatina, as it is supposed ordinarily and orthodoxically to be contracted—viz., from a previously infected person or thing, or through an intermediate person or thing, that has been in communication with the infected, but to toxæmia—are, in fact, "toxæmic scarlatina," that form of the scarlet fever which I have described elsewhere.

"It is said, again," Dr. Barnes continues, "that scarlet fever can give nothing but scarlet fever. That may be true to a certain extent. I have seen cases traced to scarlatina poison in which the usual symptoms of scarlet fever were absent.

"If we look at what a lying-in woman is, we see a peculiar constitution, ready to receive poisons" (aye, and to generate poison *de novo* in her own system), "and ready for those

poisons to ferment, and go on to disastrous issue; *while in another case the poison has no such effect.*"

These remarks confirm strongly the doctrine of unity of poison, differentiation of symptoms, according to the circumstances and idiosyncrasies of individuals.

"With regard to scarlet fever, it is enough to set up any mischief in a lying-in woman, and produces ALL the mischief of any other form of poison. We all know that scarlet fever poison, WHATEVER PATHOLOGICAL CHANGE IT PRODUCES IN THE WOMAN HERSELF, can propagate scarlet fever."

From these words, I gather that Dr. Barnes considers the one poison—scarlet fever—will set up "any mischief"—viz., other symptoms than those usually set down as belonging to scarlet fever; that is, there would be a unity of poison, but differentiation of symptoms, as if "any other form of poison produced all the mischiefs;" and he emphasises this opinion by saying—"Whatever pathological changes scarlet fever produces in the woman herself, it (scarlet fever) can propagate scarlet fever" in another; we will say, for example, in a non-puerperal person.

These words, I take it, confirm very strongly the position taken up and maintained throughout in my papers.

Dr. Squire said:—"In the very carefully prepared paper in *Obst. Trans.*, vol. iii, it is stated from the chair 'that any of the agents which produce zymotic maladies might cause puerperal fever;' and again, in vol. x, the president says—'it can be caused by the contagion of typhus, measles, and scarlet fever.'"

This confirms my doctrine that "zymotic maladies" may have the one source of origin (though now they are considered to be produced by different, and distinct, and specific agents—"any of the agents" are the words to which I refer), and that the contagion of scarlet fever, typhoid, &c., may be one. I would here repeat that by unity is meant, not that the poison is always the same, but that the one poison—the one *origo mali*—whatever it may be, will originate these several so-called different affections.

Sir H. Marsh, in the fourth vol. of the *Dublin Hospital Reports* for 1827, says—"The true character of epidemic puerperal fever seems to me typhus;" typhus and typhoid were, in 1827, considered to be one at least as regards their source.

"This is founded on the experience of Dr. Johnson, Professor of Midwifery to the College of Surgeons, Ireland, who states that the ward-maids of the Dublin Lying-in Hospital

caught * typhus from patients received there." Typhus was prevalent in Dublin at the time.

Here, again, are the intercommunicability and interchange of diseases which show unity of origin, &c.

In reviewing Dr. Hicks' cases, given in vol. xii of *Obstetrical Transactions*, Dr. Squire says—"The great point demonstrated by these cases is the *special liability of puerperal women to scarlet fever*; infection is resisted up to the time of delivery, then *they succumb in three or four days*." These cases, for contra-distinction sake, I term "toxæmic scarlatina." "Dr. Rigby," said Dr. Squire, "noticed that the *children born during an epidemic of puerperal fever had Erysipelas*. . . . This, and the King's College outbreak, show its *close relation to erysipelas, to hospitalism, to putrescent infection, &c., &c.*

Dr. Brunton records the case of a puerperal scarlet fever "patient who went through the whole course of the disease with very putrid discharges as offensive as could well be, and yet recovered: the skin peeled off; she had the usual affection of the kidneys, and so on, yet did well." I should call this not the "orthodox scarlatina," but the "toxæmic," evidently traceable to the autogenetic source—"the very putrid discharges as offensive as could well be."† And here I would quote the words of Dr. Arthur Farre, who, agreeing with Dr. Kirkland, points out very accurately "that when we give a specific name to a disease, the name ought rather to indicate the disease than the condition of the individual in whom it occurs; and that, when we speak of fever, we are not speaking of a disease, but of a sign, or set of signs, indicative of a mischief going on within."

I think those requirements are fulfilled in the term

* Dr. West, in his speech, said:—"In reference to these fevers (typhus, typhoid, scarlet, and small-pox), we know that, *for the most part*"—that is, he admitted that *not always*—"they produce disease like to themselves." Interchange and intercommunicability, &c., to which I have before referred as proving our case. Dr. West adds—"If we expose a woman in the puerperal state to the contagion of scarlet fever, measles, or some other disease, she *may* have that disease, even though its characteristics may be masked and altered in some degree by the puerperal state; *but it does not necessarily follow that she will have that same disease*. Cases have been related by Dr. Collins, of Dublin, with reference to epidemics of puerperal fever, where the introduction of a case of typhus into the hospital was followed on each occasion by an outbreak of puerperal fever."

† Or it might be that the patient contracted the orthodox form of the disease, and that, as a result, the discharges became vitiated—"very putrid, as offensive as could well be." Either explanation will suit, as Dr. Brunton does not say at what period of "the whole course of the disease" the discharges first became offensive.

"toxæmic scarlet fever," wherein are evolutions of blood poison not derived from orthodox scarlatina, the manifestations of these evolutions being the same as this latter form.

"It seems to me," says Dr. Farre, "that, in considering the pathology of those cases, we have lost sight of that intermediate condition which intervenes between the entrance of the poison into the blood, and *the development of it in various ways and forms*, which give significant names of the diseases under which they are classed. I think, also, we have too much left out of consideration the influence of the nervous system—the influence of these poisons upon the nervous centres; and, if we direct our attention further to this particular, we should be able to throw a great deal more light upon these diseases, and perhaps get over some of the difficulties that now surround us." Surely, though perhaps not meaning it, Dr. Farre fully confirms unity of poison, differentiation of resulting phenomena—symptoms! He speaks of "the poison," not of poisons, a unity, an entity, not a plurality; of "development in various ways and forms" as it (the one poison) evolves in the blood and system, to which ("various ways and forms") significant names are given of the, or according to the, diseases under which they are classed. Not I take it that they are separate and distinct diseases, but varied phases, varying with changing evolutions—varying it may be so completely that, orthodoxically, they would be set down to be separate and distinct. Then follows the explanation of the diverse manifestations of the development, the evolution, and the working of this one poison—"The influence of the nervous system, the influence of these poisons upon the nervous centres." The closing words of Dr. Farre's exhortation are so pregnant with importance that I re-quote them:—"If we direct our attention to this particular, we throw a great deal more light upon these diseases (varieties of symptoms, manifestations of the working and evolution of the one poison to which he referred), and get over difficulties that now surround us!"

Dr. Savage said:—"Dr. Barnes and Dr. Hicks cling to the opinion that there was a sort of connection between scarlet fever, or *that sort of fever* that they had seen, and puerperal septicæmia. It could not be the orthodox scarlet fever, because it is clear that you can have in a parturient woman right down scarlet fever, and she will get over the scarlet fever, and the parturition exceedingly well. I suppose these gentlemen mean some other form—a bastard form of fever." True! it is not the orthodox, but the—what I have termed—

"toxaemic," to distinguish it as regards its mode of commencement from the "orthodox" (a point which I have explained before), though otherwise, in symptoms, sequelae, &c., they are alike, are in fact identical. I think all these gentlemen will now agree with me in this distinction; and further, that though there be this distinction in origin, each is as true and as real scarlatina as the other.

Dr. Playfair in his speech made use of these admirable words:—"We are only at the threshold of the inquiry, and have to build up all our knowledge by *unprejudiced and patient clinical investigation*. The relation of the specific zymotic diseases to the so-called puerperal fever is one of the most obscure subjects and most difficult to reconcile with the germ theory, of any question connected with puerperal fever, and cannot be got rid of by simply denying it." I trust my papers will tend to clear away some of the obscurities and difficulties.

"I do not believe," continues Dr. Playfair, that there is any *specific* condition justifying the name of puerperal fever; nor do I believe that there is any *special* miasm arising from the puerperal patient capable of being conveyed to another patient." Assuredly not! and the very points I dwell on in this paper confirm Dr. Playfair in the *non-specificity doctrine*, and confirm the great truth, "unity, &c."

"It has long been a recognised axiom among British obstetricians of the highest eminence—amongst whom is Dr. Farre—that the puerperal patient to whom the poison of some specific zymotic, such as scarlet fever, is brought, may be attacked with an intense form of disease, *which does not show the specific characters of the disease that produced the contagion*, and which is practically undistinguishable from ordinary puerperal fever." Here, surely, is the interchange and intercommunicability and hybridity of symptoms, to which I have so often referred, and which tend to prove "unity of poison, unity of originating virus, differentiation," &c.

I know that this view, though it may be contested with negative arguments, will yet come out in bolder and clearer relief, because (to use Dr. Playfair's words, trenchant to this question), "no number of negative observations can outweigh even one single positive fact carefully observed"—how much more the number of facts supportive of this unity doctrine.

"The facts," continues Dr. Playfair, "in regard to *these zymotic diseases* producing puerperal fever are really beyond question. There is no one of the diseases about which strong evidence could not be brought forward. With regard to

erysipelas the fact is scarcely questioned at all. We all know how *erysipelas is interchangeable in lying-in hospitals with puerperal fever.*"

"In Dr. Hicks' paper there are no less than seventeen examples, if I rightly remember, of women who had *a disease which presented no symptoms of scarlet fever, WHOSE SYMPTOMS WERE CLEARLY DUE TO THE CONTAGIUM OF SCARLET FEVER.*"

"Then there is diphtheria! The most brand-new theory of puerperal fever is that it and diphtheria are the same things. I saw within the last twelve months a case remarkably *illustrative of the influence of diphtheria in producing a disease which I was unable to distinguish from puerperal septicæmia.*

"A newly-married couple had gone into a new house at Notting Hill shortly before the lady's confinement. The house was in a most unhygienic condition; an untrapped drain opened into the bed-room; an untrapped pipe from the drain and a gully under the window gave off offensive smells. *The patient had an attack of intense septicæmia, from which she barely recovered with her life; and the husband at the same time was laid up with a well marked acute attack of diphtheria.* Who could rationally disbelieve that those two diseases were produced by the same septic poison. I do not think there could be any doubt about it."*

This is a strong confirmatory case in proof of the doctrines enunciated in this paper. "The poison of zymotic diseases can produce a condition which is not to be distinguished from pyæmia." Yes; and pyæmia or septicæmia, or orthodox typhoid, will produce symptoms which are not to be distinguished from orthodox scarlatina—symptoms to which the name toxæmic scarlet fever—or toxæmic typhoid, as the case may be—is the most appropriate.

Dr. C. Holman says:—"Scarlet fever may produce the disease proper, with eruption, sore throat, &c., and mild or severe in the lying-in; or it may produce child-bed fever *without any trace of eruption or throat affection, or any symptom leading at once to the diagnosis of the primary factor being scarlet fever.*"

Surely these words bear strongly on unity of poison, differentiation, &c., &c.

Dr. Holman then cites cases in his own experience bearing on the opinion he expressed, and caps them by saying "that

* Dr. Playfair has brought this out even more prominently in his description of the case of the Duchess of Connaught and Bagshot Park, and he has been abundantly corroborated by other writers and observers.

zymotic diseases may cause puerperal fever *without specific evidence of the peculiar disease which gives rise to it.*"

Dr. Fordyce Barker says—"A distinct character of a disease is determined by the evidence derived from three sources—the causes, the clinical phenomena, and the pathological anatomy. Some diseases give us proof of their distinctness by evidence derived from all three of these sources, others from only two, others from one alone." Upon this sentence follow these words, so strongly attestant to my view:—

"An idea which fallaciously colours and obscures much of the reasoning on puerperal fever is, that identity of cause must be followed by identity of result. In other words, that a given cause—a special morbid poison—known to develop a special distinct disease, must always produce this particular disease."

"I saw a lady, dangerously ill from pyæmia, in consultation with Dr. Sayre, who was attending her for a traumatic injury. By our suggestion the house was carefully examined, but no defect was then discovered which could explain the source of the blood poisoning. Very soon *three members of the family were severely ill from a typho-malarial fever.* As soon as the condition of the patients would permit their removal, I insisted that the walls of the room covering the plumbing should be torn down, when it was found that there was *a defect in the leaden waste pipe* sufficient to permit the noxious gases to permeate the house, but not sufficient to cause an escape of fluids to stain the walls of the rooms. During the past winter I attended a *gentleman with severe typho-malarial fever.* His residence was in a large house, constructed on the plan of French apartments, which was entirely occupied by families of refinement and abundant means. *During the time of convalescence of this gentleman, diphtheria appeared in another family in this apartment-house.*

"On examination it was found that the waste pipes in this house were in precisely the same condition as that of the other house. Who can doubt that *the pyæmia, the typho-malarial fever, and the diphtheria were all caused by the same special morbid poison?*"

"At the last meeting of this Society Dr. Playfair related some facts which recently occurred, where puerperal septicæmia in a wife, "from which she barely recovered with her life," and diphtheria in the husband, "from which he nearly died," seem to have been due to the same causes which I have mentioned.

"Who could rationally disbelieve that those two diseases

were produced by the same septic poison?" One he names, because of his theory of its cause, septicaemia; *the other* PRODUCED BY THE SAME CAUSE, he names (says Dr. Barker) from its clinical phenomena, "diphtheria." But are not both diverse evolutions of the one blood poisoning? A unity of poison, a differentiation of symptoms—I would say most emphatically!

"I think the evidence is conclusive that the poison of erysipelas may cause in women after childbirth a distinct disease which some of us call puerperal fever, and that *the poison of puerperal fever*, if absorbed into the system of a man or a child, will cause in that man or child erysipelas. But the clinical phenomena and the anatomical lesions which result from *this common poison* are so diverse as to warrant us in regarding them as two distinct diseases."

Why call them two distinct diseases? Why not call them simply diverse symptoms, differentiations from one source of origin? A unity of poison, a divergence of resulting phenomena, the divergences occurring as the poison evolves, and from a variety of causes determines or is determined variously.

"Dr. John Bell, of Philadelphia, in a reprint of Nunnely," on erysipelas, "gives facts in regard to several epidemics in the United States, in which erysipelas and puerperal fever have appeared together."

"Dr. Richardson," continued Dr. Barker, "argued that there were no local lesions which would lead us, in the dissecting room, in any case to say, this was a case of puerperal fever, as we should say this was a case of scarlet fever, or typhoid, or of typhus fever. *I think it would be impossible to prove by the anatomical lesions that scarlet fever, or typhus, or relapsing fever are distinct diseases.*

"A child is put to bed at night apparently well. A few hours afterwards it is awakened by vomiting, is very delirious, its pulse is very rapid, and the temperature is six or seven degrees higher than is normal, and the child dies in the early morning without the slightest eruption on the skin. No anatomical lesions can be found in the dissecting room to characterise the disease. But scarlet fever is epidemic in the neighbourhood, or another child in the same family is taken ill with well marked scarlet fever within a few hours after the death, and any physician would feel warranted in registering the cause of death as scarlet fever."

The circumstances of these cases prove, I consider, incontrovertably the law—unity of originating poison, differentiation of resulting phenomena; "and such cases are not very rare," said Dr. Barker.

I would say the death resulted (not from scarlatina, but) from the virus, which in one produced death, in the subsequent patients symptoms to which we apply the term scarlet fever; and which virus, in another, would occasion diphtheria, in others erysipelas, typhoid, &c., &c., while in the childbed woman, puerperal fever would be lighted up.

"Would," continues Dr. Barker, "the most able of the recent authorities on the continued fevers—Jenner, Murchison, Hoffman, Lebert—insist that no one would have a right to register a death as resulting from typhus fever, or relapsing fever, unless certain characteristic anatomical lesions are found in the dissecting room? All of these writers declare that these diseases have no pathognomonic lesions."*

In conclusion, I would use the following words of Dr. West:—"No one can have read . . . with care, without being struck by the way in which men of the greatest talent and sincerest love of truth differ, not merely with reference to the conclusions they draw, but also with reference to the very facts that they thought they had observed." These are significant words; and, since to err is human, and we are all searchers after the truths of nature in health and in disease, all students, from the first day of our pupillage to this life's final day, which will usher us into the realms of truth, where present mysteries of health and disease will be all made manifest to us, I would apply to ourselves the exhortation of Cromwell, "I beseech you, brethren, conceive it possible that you may be mistaken!" We will then continue our researches more patiently and vigorously; our application of results with renewed carefulness, our study with more laborious earnestness, and our labours with fresh zeal, and with untiring efforts; more regard for the labours of others, more generous forbearance from cavilling when results and inferences differ, more fellowship in good work of which the object is—the arrival at Truth.

* In reference to this I would cite the following case, related to me by a physician of high standing, but who, for obvious reasons, does not wish his name to be associated with the cases. Two patients were admitted into the hospital; one was set down as suffering from scarlet the other from typhoid fever. They both died; the pathologist examined the bodies, and from the lesions he found, he said, one died of typhoid the other of scarlet fever, and exactly reversed the cases—showing, I consider, in death a unity of pathological manifestations with other cases previously examined, though during life the clinical differentiations were well marked, a pathological unity which made the pathologist reverse the names given to the clinical symptoms by the physician who attended the patients during life—a pathological unity and clinical differentiation that to my mind go to prove unity of poison, differentiation of resulting phenomena.

CURRENT TOPICS.

A contributor sends us a note of the following interesting facts:—

“Having occasion lately to purchase a new hypodermic syringe, and being struck with the disproportion between the apparent capacity of the barrel of the new instrument and its capacity as indicated on the graduated piston, I set about testing five syringes which happened to be within my reach at the time, with these results:—One was accurately graduated, holding exactly the quantity indicated. The second was graduated to hold 35 minims, and held 37. The third, which had been submitted to me for approval by the instrument seller, was very inaccurate; 5 minims, as indicated on the rod, were found equal to 7 by careful measurement, 10 equal to 14, and 15 equal to 22; this instrument, therefore, graduated to hold 15 minims, actually held 22. The fourth syringe, an instrument I had used for about ten years, had an indicated capacity of 18 minims, and an actual capacity of 22½ minims. My new purchase, the fifth syringe examined, was marked to hold 22 minims, and held 15 minims exactly. The moral to be drawn from all this is that every one should test a new hypodermic syringe before using it; if the graduation is found to be incorrect it can easily be rubbed out (if on the piston), and written anew, with the aid of a little wax and nitric acid. I believe that inaccuracies such as I point out, are not uncommon. They may account for disappointments sometimes experienced in using remedies hypodermically, and might give rise to embarrassing accidents in administering such powerful agents as strychnia, atropia, &c.”

DR. TURNER'S PAPER ON ELEPHANTIASIS OF THE SCROTUM.—Since the publication of this paper in our last number, we have been in communication with Dr. MacDonogh in regard to some references to his name in the paper. Dr. Turner has furnished us with the following memorandum in regard to the points in question.

Memorandum.—Since the publication of your last number Dr. G. V. MacDonogh has written concerning one or two errors in my reference to him in my article on Elephantiasis. He points out that he did not witness O'Farrall's operation in

Dublin in 1844 as he did not commence to study there till the following year. He also corrects my statement that in his second case only one of the testicles was retained. Both were retained in that case. I regret that owing to the report which I had preserved of his operations having become almost illegible, through the ink having faded, this error should have crept into my account.

With regard to my remarks about the clamp, he says, "You are mistaken in fancying I got the hint with regard to formation of the clamp from Dr. Druitt's *Vade Mecum*, the eighth edition of which is the only one I ever possessed, and which I had with me in 'Cossack' when at Apia, it makes *no mention of any clamp whatever*." The editions of the *Vade Mecum* in which reference to the clamp is made are the ninth, p. 665, as in my article, and the tenth, p. 617, published in 1865 and 1875 respectively. The reference is in these words, "a clamp composed of parallel bars, with screws at each end, is applied to the neck of the tumour to act as a tourniquet."

I exceedingly regret the above mentioned discrepancies having appeared in my account, and all the more so because, when preparing my paper, I endeavoured to communicate with Dr. MacDonogh in order to get him to correct my references to him, but could not do so, in the first instance because of his name having in some unaccountable way dropped out of the *Medical Directory*, and then when I had succeeded in finding his address through a professional friend, I was at the same time informed that he was away on "twelve months leave of absence from England."

GEO. A. TURNER, M.D.

GLASGOW, 24th June, 1882.

REVIEWS.

The International Encyclopædia of Surgery. Vol. I. Edited by JOHN ASHHURST, JR., M.D., Professor of Clinical Surgery in the University of Pennsylvania. London: Macmillan & Co. 1882.

THE work opens with an able article on The Pathology of Inflammation, by S. Stricker, M.D., Professor of Experimen-

tal and General Pathology in the University of Vienna. The author first briefly touches upon the histology of the vascular system and the mechanism of hyperæmia, and then passes on to the consideration of inflammation in the various tissues. Professor Stricker entirely rejects the migratory theory of Cohnheim. His own view is briefly described as thus:—"Metamorphosis of tissue; return to the embryonic condition; division into amœboid cells of the masses which have become movable; hence the destruction and suppuration." This doctrine will perhaps be better understood by quoting what is stated elsewhere:—"As soon as an inflammation occurs, the tissues return to their embryonic state. In the embryo the entire organ consists of amœboid cells. The inflamed tissue of older animals, which is normally composed of more rigid cells and intermediate substance, is again converted into amœboid cells, or I should prefer to say into *amœboid substance*, in view of my most recent researches. The subdivided amœboid substance, or the amœboid cells of an inflammatory focus, are called *pus corpuscles*. It is accordingly the tissue itself which is transformed into pus corpuscles." The doctrine was derived from the consideration of suppurative keratitis; the method of investigation and the results obtained are carefully detailed. To those accustomed to the "migratory theory" the sections upon the inflammation of tendon, cutis, bone, cartilage, muscle, nerve, &c., will read as something somewhat novel. It would be impossible to do justice, in the brief space permitted us, to these sections by a cursory review. They are clearly and concisely given, and as much worthy of the careful consideration of the pathologist and physician as those for whom the work, as a whole, is more immediately intended. But we venture to think that high as is the acknowledged authority of Professor Stricker, both as a pathologist and histologist, his investigations will need to be further corroborated by other observers before such a deeply engrafted and well received theory as that supported by Professor Cohnheim can be totally rejected.

In the article which follows—Inflammation, by William H. Van Buren, M.D., LL.D., Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College, New York—we have an exhaustive description of the subject in its clinical aspect. The author, after discussing at length the various causes predisposing and exciting, proceeds to enumerate and describe the different symptoms, both local and remote. In dealing with the subject of treatment, the

present antiseptic and stimulant method is contrasted at length with the old antiphlogistic and depletory measures. The article is well written, and replete with many practical suggestions, both as to cause and treatment. With its predecessor it combines in introducing a valuable compilation on the entire subject of inflammation, and will contribute not a little to the value of the work which it preludes.

Alfred Stille, M.D., LL.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, Philadelphia, contributes an article upon erysipelas, which is a tolerably complete *résumé* of the literature of the subject, from the time of Hippocrates to the present date. The section upon the causes of the disease is an interesting one as illustrating the extensive and searching investigations of the author concerning the various epidemics which have occurred in Great Britain and on the Continent, as well as the opinions of authorities at home and abroad.

The article upon Pyæmia and Allied Conditions, by Francis Delafield, M.D., Adjunct Professor of Pathology and Practical Medicine in the College of Physicians and Surgeons' Medical Department of Columbia College, New York, is not so complete an elaboration of the subject as an encyclopædia deserves. The germ theory, which is introduced, is discussed in a couple of pages, and the chemical theory has but half a page; a correct proportion perhaps, but each deserving a far more extensive consideration. The article lacks what is so essential for those wishing to obtain a fuller insight into the subject, a reference to the various publications from which quotations or cases are extracted, thus we find but two so exactly mentioned as to admit of easy reference. The author, acknowledging the ambiguity of the term pyæmia, employs it in its most comprehensive meaning, including the simplest case of traumatic fever and the most virulent fatal cases of septic poisoning. Two very good chromo-lithographs are introduced, showing metastatic abscesses of the lungs and liver.

William S. Forbes, M.D., Demonstrator of Anatomy in the Jefferson Medical College, Senior Surgeon to the Episcopal Hospital, Philadelphia, contributes three articles upon respectively Hydrophobia and Rabies, Glanders, Malignant Pustule. In that on hydrophobia the symptoms are treated at some length; but we do not see mentioned what some physicians—notably Drs. Marochette, Xanthos, and Magistel—have drawn attention to, the presence of lyssi beneath the tongue,

the detection and destruction of which they maintain prevents the onset of the disease. On the subject of treatment, cases are quoted to show the palliative effects of nitrite of amyl and the apparently remedial results from the subcutaneous injection of curara. In the article on malignant pustule the subject is very briefly discussed, and we venture to doubt the clinical assertion that "the vesicle soon becomes pustular." Such has not been the experience of most surgeons (T. Holmes, T. Smith, M. Bourgeois). The term malignant pustule has indeed been claimed to be a bad one for this reason, and its French synonym *charbon*, deemed preferable.

Mr. Butlin, F.R.C.S., Assistant Surgeon to and Demonstrator of Surgery at St. Bartholomew's Hospital, London, contributes an article on Scrofula and Tubercle. Although nothing new is suggested, all that is known is clearly and concisely given, which is saying much for the treatment of a subject enshrouded with so much obscurity and encompassed with so many conflicting opinions. Being written nearly two years ago it necessarily lacks views of some of the more recent investigators—Treves, Koch, &c.—which may prove of considerable interest in filling in the details of that needed picture the author graphically describes should be "perfect in all its parts, firm and clear in outline, correct in its proportions, and delicately toned in light and shade."

The subject of Rachitis which follows, is efficiently dealt with by J. Lewis Smith, M.D., Clinical Professor of Diseases of Children in the Bellevue Hospital Medical College, New York. It is well up to date, the most recent literature upon the subject on the debate at the London Pathological Society in December 1880 being introduced and discussed.

The article on Scurvy, by Philip S. Wales, M.D., Surgeon-General of the United States Navy, is as complete a review of the subject as could well be wished. That part of it relating to the history and etiology of the disease naturally possesses considerable interest, and the author shows, by innumerable references, the frightful havoc the disease once played on armies, "causing," as he adds, "more destruction . . . than the sword and other dangers of warfare combined."

The Reciprocal Effects of Constitutional Conditions and Injuries, by A. Verneuil, M.D., Professor of Clinical Surgery in the Faculty of Medicine, Paris, is an original article, consisting rather of a *résumé* of the vast experience of that able surgeon than of any compilation from other sources. One or two points of special and peculiar interest we may

draw attention to. The author doubts the existence of a special hæmorrhagic diathesis or hæmophilia. In all the cases which have come under his notice the patient has been suffering from either hepatic disease, malaria, diabetes, scurvy, leucocythæmia, &c. In injuries occurring to syphilitic patients one or two events may happen in the one case where the disease has manifested itself, "the lesion receives a more or less active impetus and becomes more or less grave;" in the other, where the disease is entirely latent, the effect of the injury is to cause it to manifest itself "full blown, and to attack a region which had previously escaped." With regard to the use of chloroform in certain classes of cases the author says:—"The use of chloroform demands special precautions in individuals who habitually make excessive use of morphia.

. The narcosis may be prolonged for an extremely long time and may be accompanied by a depression of temperature, which in some cases has awakened well founded apprehension." Dr. Verneuil states that cachectic cancerous patients tolerate surgical operations very badly; but on the authority of Sir James Paget, we have it that in this same cachectic class of patients "it is often remarkable how well their wounds heal, and what a revival of power they display." The article is a valuable one as impressing what perhaps is frequently too little recognised, the effect of surgical interference in many of the diatheses, the general condition being overlooked in the consideration of the local.

The article upon the General Principles of Surgical Diagnosis, by D. Hayes Agnew, M.D., LL.D., Boston, Professor of Surgery in the University of Pennsylvania, Surgeon to the Pennsylvania Hospital, Philadelphia, is essentially a practical one. The value of the history of a case, as also the advantages of a special examination by personal investigation, are fully set forth with numerous illustrations. The author is in some instances somewhat too exclusive in the value attached to certain symptoms; thus, in the diagnostic importance of posture we find it stated "in intra-capsular fracture of the thigh bone the nature of the accident will be strongly suspected on seeing the foot lie on its outer side." But this eversion equally suggests extra-capsular fracture, and inasmuch as this form of injury is more common at all ages than the former, it would rather more strongly point to extra-capsular fracture. Again, "in acute peritonitis the inflammation is revealed by the dorsal decubitus, flexed limbs, and distended belly," but we often see the abdominal parietes rigidly contracted.

Shock—by C. W. Mansell-Moullin, M.A., M.D., Oxon, F.R.C.S., Fellow of Pembroke College, Oxford; Surgical Registrar to the London Hospital, London—is a very good article, and not the least valuable section in it is that dealing with the pathology of the condition. The author there shows, from experimental physiology, that to a very great extent it is due to a reflex inhibition of the heart and blood-vessels. A few pages are devoted to the subject of fatty embolism; and from the difficulty of conceiving how death could be caused by simple fatty obstruction to the passage of blood through the lungs, Mr. Mansell-Moullin regards the fatal effect as probably due to the addition of a second factor, and this is manifested in “that form of acute blood poisoning, known as collapse with cyanosis, which is particularly likely to set in on the second or third day after an injury, and which is much more consonant with the symptoms of the majority of cases.”

Traumatic Delirium and Delirium Tremens, is the subject of a very good but not very long article, by William Hunt, M.D., Senior Surgeon to the Pennsylvania Hospital, Philadelphia. Numerous charts are introduced, showing the pulse, respiration, and temperature. The severer the attack of traumatic delirium the higher appears to be the pulse and temperature.

The ensuing article upon Anæsthetics and Anæsthesia—by Henry M. Lyman, A.M., M.D., Professor of Physiology and of Diseases of the Nervous System in the Rush Medical College, Chicago—is on the whole a highly commendable one, though there are points in it open to question; thus, ether is in most cases preferred to chloroform: “organic disease of the heart or the larger blood-vessels should preclude the use of anæsthetics.”

Operative Surgery in General, by John H. Brinton, M.D., Lecturer on Operative Surgery in the Jefferson Medical College and Surgeon to the Jefferson Medical College Hospital; Surgeon to the Philadelphia Hospital, and to St. Joseph's Hospital, Philadelphia. This article is in every respect a very practical and useful contribution. While there is much which from its simplicity and natural suggestiveness to every professing surgeon might be considered superfluous, there is, on the other hand, the introduction of many little hints and practical suggestions which are worthy of the consideration of even senior members in the profession. The article is one which will commend itself alike to the youngest as well as to the most experienced.

Minor Surgery, by Chas. T. Hunter, M.D., Demonstrator of Anatomy in the University of Pennsylvania; Surgeon to the Episcopal Hospital, Philadelphia. This is essentially American, giving a very good insight into the various methods adopted by our Transatlantic confrères. There is little to be said about it. The descriptions of the various kinds of bandages and the mode of employing them, though clearly given, are still further improved by the insertion of numerous woodcuts.

Plastic Surgery—by Christopher Johnston, M.D., Emeritus Professor of Surgery in the University of Maryland, Baltimore—is the subject of a very elaborate historical sketch. The author must be congratulated upon the enormous amount of labour expended in collecting what may be considered an almost complete *résumé* of every reference to the subject. While what is thus given is elaborately exhaustive, we are somewhat surprised to find no reference to the transplantation of bone, as described by Professor Nussbaum, of Munich, and to the transplantation of periosteum.

The closing article upon Amputations—by John Ashurst, Jr., M.D., Professor of Clinical Surgery in the University of Pennsylvania, Philadelphia—like its predecessor, reflects great credit upon the care and exactitude with which the numerous statistics have been collected and summarised, and the various opinions of authorities expressed and impartially criticised. Numerous woodcuts are employed illustrating instruments and operations; those of the former are good, but those of the latter are very indifferent, and in some cases unintelligible. (*Vide* figs. 148, 177.) No mention is made of the stretching of nerves after amputation, a method adopted and forcibly advocated by the late Mr. Callender.

We can only claim to have given a cursory review of the various articles contained within this the first of six volumes of which the work, when complete, is to consist. The work aspires to be an international encyclopædia, and the editor states that the various topics discussed have been entrusted to distinguished writers of various countries, but only four of the seventeen contributors are not Americans, and many of these quite unknown in the surgical world. But this is intended as no depreciation of the work, for it might be said with considerable truth that it is doubtful if, from the way in which each section has been executed, they could have been placed in better hands, and this

we think we have shown in the brief review attached to each article. To summarise, as a whole. The work is encyclopædical in its scope and well up to date, and if this the first volume may be taken as a criterion of the remaining five, we may expect to have a work which will reflect the greatest credit upon its contributors, and amply reward the onerous exertions of the editor. The publishers have done their part well, both print and paper are good, and the profession may expect to be supplied with a work proportionately no less in quality than it will be prodigious in quantity.

On Chorea and Other Allied Movement Disorders of Early Life. By OCTAVIUS STURGES, M.D. London: Smith, Elder & Co. 1881.

DR. STURGES published a little book in 1877 on Chorea and Whooping-cough, which we noticed in May 1878. The present volume is a further development of his views on chorea. He strives to make out that chorea is essentially a functional disorder, and he seeks to minimise the importance of the connection between it and rheumatism, although he admits that in the group of *fatal* cases of chorea, rheumatism does play a part which cannot be ignored. In our former notice of his views we indicated our inability to accept his teaching on this subject; but his views are advanced with great ingenuity, and, in this enlarged statement, his tabular records of cases supply important details, which are of considerable value in the study of this interesting disease, quite apart from the acceptance or rejection of the doctrine advanced. In this view we can recommend this work for consultation as a valuable contribution to the subject.

Deaf-Mutism and the Education of Deaf-Mutes by Lip-Reading and Articulation. By DR. ARTHUR HARTMANN. Translated and enlarged by James Patterson Cassells, M.D. London: Baillière, Tindall & Cox. 1881.

WE feel indebted to Dr. Cassells for placing within the reach of English readers this admirable monograph on deaf-mutism. The subject is one which has a great interest for our profession, but the interest in such matters extends to a much wider circle. The chapters on the recognition of deaf-mutism, on the statistics of congenital and acquired deaf-mutism, and

on the anatomical changes on which the defect depends, are of course specially interesting to medical readers. But the sections dealing with the history of deaf and dumb institutions, the education of deaf-mutes, and particularly the account of the method of teaching them lip-reading and articulation are of the greatest interest to the wider public who care for the education of this unfortunate class, and who support the institutions for their instruction. To all such, this book is of great value. The importance of the method of training the deaf and dumb to hold intercourse with their neighbours by means of ordinary language, apart from the artificial finger alphabet, can scarcely be over-rated; no doubt the language of signs comes naturally to the deaf and dumb, and there can be no objection to such expressive modes of communicating their ideas; but the power of using and understanding ordinary spoken language is of such immense benefit, that those charged with the care of deaf and dumb institutions ought to see that no efforts are spared in giving this method *a really fair trial*. Even in the case of those whose hearing is far from absolutely lost, some benefit in the ordinary intercourse of life might be found from regular instruction in lip-reading.

The title page bears that Dr. Cassells has "enlarged" as well as translated this volume: the additions, if at all considerable, are not clearly indicated; we notice, indeed, a footnote at page 176, apparently by the translator, but this can scarcely be the enlargement referred to—possibly the "numerous and important additions, written by Dr. Hartmann expressly for this work," may afford an explanation of the enlargement referred to. We have much pleasure in recommending this book as a most valuable treatise on the subject of deaf-mutism.

Materia Medica and Therapeutics—Inorganic Substances.

By CHARLES D. F. PHILLIPS, M.D. London: J. & A. Churchill. 1882.

THIS is a companion volume to that on the *Vegetable Materia Medica*, published by the same author so long ago as 1874. The long interval which has elapsed since the publication of the former volume is explained in the preface as due to a severe railway accident, in which Dr. Phillips was unfortunate enough to suffer; the conditions under which the book has been written, however, so far from rendering it necessary that

any apology should be made for its "defects," seem rather, by enforcing retirement for a time, to have made it possible for the writer to provide us with the fullest and most reliable work we at present possess on the therapeutic uses of the inorganic *materia medica*. Dr. Phillips' leisure has evidently been employed to good purpose, as one of the main characteristics of the book is the unusually wide and minute acquaintance it reveals with the literature of the subject, both as found in books and in journals, home and foreign.

The arrangement of material here adopted is that commonly followed in such works. The various elementary bodies (oxygen, nitrogen, sulphur, iodine, &c.) are first considered, this section taking up the first 150 pages. The next 70 pages are devoted to the discussion of the uses of water in various ways, both internally and externally, a classification and account of the mineral waters and baths being also given; this section is particularly interesting, and we regard it as one of the best and most instructive in the book. The acids and ammonia are then taken up, the remaining articles of the inorganic *materia medica* being discussed in alphabetical order. This arrangement, as a whole, is a commendable one in a work of reference; it is not a scientific arrangement, however, and it is to be regretted that, in a work dealing so largely with therapeutics, no attempt is made at a systematic grouping of remedies according to their action on the economy.

A uniform plan is followed in the consideration of the individual medicinal substances. First comes a short account of the chemistry of the body under notice, including its preparation, characters, and tests, this being a part of the subject to which the author devotes more space than usual; then we have a statement of the manner of absorption and elimination of the drug; its physiological action, both as used internally and externally, ample space being given to this, as might be expected in a modern work on rational therapeutics; its synergists, or the bodies which promote the action of the drug; its antagonists and incompatibles; its therapeutic action, as an external and an internal remedy; and finally, a list of its officinal preparations and their doses, and some practical and valuable hints as to the best modes of administration.

So much for arrangement. As regards the real matter found in the book before us, there is nothing but praise to award. The volume is somewhat too comprehensive and bulky for the ordinary student, and has nothing in it of the character of a "grind;" to the practitioner, however, in search

of the latest and most reliable information on the actions and uses of the inorganic materia medica, it will prove invaluable. The publisher's portion of the work is done in a very praiseworthy manner, the paper, printing, and binding being unusually good.

We notice, as a small point to which exception may be taken, that the author makes a common, but not strictly correct, use of the word "official," giving it the same meaning as pharmacopœial or official. Official preparations are remedies kept ready prepared in the shop (*officina*); and though, from the fact that these, as a rule, are official standard preparations made in accordance with certain directions laid down in the pharmacopœia, it has become customary to employ the word in the manner followed by Dr. Phillips, yet it is not etymologically justifiable. Thus, many official remedies are not yet official. Dr. Phillips says that iodoform and sulphide of calcium are not official; they are not official (or pharmacopœial), but they are certainly official in the strictest sense.

The Sphygmograph: its History and Use as an Aid to Diagnosis in Ordinary Practice. By R. E. DUDGEON, M.D.
London: Baillière, Tindall & Cox. 1882.

WE can heartily recommend Dr. Dudgeon's little book to those who may be interested in sphygmography. It gives a very full and interesting account of the history of this department of scientific research, and then follows an explanation of the different parts of a pulse tracing, with an account of the author's instrument and its use. We agree with the author in regarding the dicrotic pulse wave as caused by the closure of the aortic valves, and the other secondary waves as oscillation waves. One of the greatest advantages of Dr. Dudgeon's instrument is its small size and ease of application. We are not quite sure, however, if it is really a more accurate instrument than Marey's, with which we have worked a great deal, and we think that after a little practice the latter is by no means a difficult instrument to apply, though not so easy as Dr. Dudgeon's. We doubt much if the sphygmograph will ever "play as important a part in clinical research as the stethoscope and the thermometer."

The book is well and pleasantly written, and will well repay a perusal.

The Diseases of the Spinal Cord. By BYROM BRAMWELL, M.D., F.R.C.P. (Edin.), Lecturer on the Principles and Practice of Medicine in the Extra-Academical School of Medicine, Edinburgh, &c. Edinburgh: Maclachlan & Stewart. 1882.

THIS work, which is based on a portion of the author's lectures on medicine, is one of considerable size, and discusses the physiology, pathology, and diseases of the spinal cord in great detail. In perusing a work on any department of practical medicine, it is usually easy to distinguish those which are founded on an extended and exhaustive experience of the subject with which the writer deals, from those which are mainly based on a large and well selected acquaintance with the literature of the subject, with, however, but a moderate amount of practical experience (*i.e.*, such an experience of special cases of disease as falls to the lot of most men engaged in large private or public practice). Judging of the book at present under review from this standpoint, we cannot say that we think it one of very great originality either as to physiology or pathology, but would rather be inclined to regard it as coming under the latter category. But in speaking thus, we would not be understood as wishing to detract in any way from the merits of Dr. Bramwell's book, as it is a very excellent statement of all the known facts with regard to the diseases of the spinal cord, and is the result of much and careful study of the literature of the whole subject. From these remarks it will be gathered that the book is mainly an educational one, more fitted for the requirements of the student or the beginner in the study of the special diseases of which it treats, than for the well educated and well read medical man, who, having passed the stage of mere educational works, desires to become acquainted with standard and classical works on medicine.

One special feature of the work is the wealth of illustration in which it abounds, and which certainly adds very greatly to its value. A great number of chromo-lithographs are introduced, but the number of pathological conditions illustrated is by no means so great, as 14 out of a total of about 45 illustrate cerebro-spinal sclerosis, 8 pseudo-hypertrophic paralysis, and so on. We can quite well understand how the extensive use of diagrams here employed should greatly facilitate the understanding of some of the more important and difficult points in the study of the cord, and the author certainly shows by their use that he appreciates the diffi-

culties of imparting such points to students. Having thus given an outline of the general nature of the work it remains for us to briefly point out how the author treats his subject.

Chapter I deals with the anatomy and physiology of the spinal segment, and in it is given a very good and full account of all the most recent and important information on this subject. Flechsig's investigations are referred to in detail; and the whole chapter is greatly enhanced in value by the diagrams it contains. The second chapter concerns the pathology of the spinal segment, and the alterations in function which result from lesions of its different parts. With regard to this chapter we have nothing special to say except that we think the effort, if we may so speak, to systematise, to arrange different affections and symptoms under separate paragraphs and sections has been carried to excess. One is apt to get tired reading about say positive symptoms 1, 2, 3, 4, negative so-and-so, and is too much reminded of the days when he used to *cram* for examinations to read with pleasure details which are arranged in such a manner. Chapter III contains the method of case-taking, a summary of the symptoms met with in, and the clinical examination of, a case of spinal cord disease—and the general plan of the diagnosis, prognosis, and treatment. Under this heading the clinical examination of the spinal cord is discussed in all its details. This part of the work, like the rest, is profusely illustrated, and in reading it we were reminded that this is the third text-book with which we are acquainted, in which Ziemssen's plates of the motor points are copied—the two others being Wood's *Therapeutics* and Finlayson's *Clinical Manual*. Fig. 94 illustrates the method of obtaining the patellar tendon reflex, and whatever may be said as to the merits of the diagrams in general, this one is certainly not very artistic, as one of the patient's legs seems to be both longer and thicker than the other. The last chapter contains a tabular classification of the diseases of the spinal cord and a short description of the individual organic affections. This part of the work, as the author points out in a foot-note to page 172, is an afterthought, and, as a result, many of the points with regard to the pathological histology, &c., of the special diseases have already been fully described in former parts of the book. This necessitates pretty constant references to previous pages, but will be rectified should a future edition be called for.

The book goes over such a large field that it is almost

impossible to refer to it more in detail than we have done, but there are one or two points which we would like to notice. Throughout the book "spinal irritation" is spoken of and described as if it were an affection that could at once be referred to the spinal cord. In the cases we have seen it would in most of them have been very difficult at first to have suspected the cord at all. At page 76 it is said—"in 'spinal irritation' pain and tenderness over the spinal column is the chief complaint." At p. 144, under the heading of pain referred to the spinal column, we find the same opinion expressed, and also at pp. 268 and 269. In our experience the pain was never referred to the spinal column, its usual site being under the left mamma or over the stomach, and it was only on careful palpation of the vertebral column that a spot tender to pressure was discovered, of the existence of which the patient was not previously aware. With the rest of the description,—viz., that it occurs chiefly in young women, is usually associated with hysteria, &c., we perfectly agree. At pp. 82, 154, and 212 primary lateral sclerosis is spoken of as an extremely rare affection. During the last two years we have seen reason to doubt the strict accuracy of this statement, as quite a number of cases have turned up in hospital practice here, presenting the usual typical symptoms, *e. g.*, rigidity, stiffness in gait, gradual loss of power in the muscles, and increased reflexes, and we think that the reason for supposing the disease a rare one is rather to be found in the fact that it has not hitherto been recognised, or has been confounded with some other variety of paraplegia. Again, is it strictly or etymologically correct to speak of a congenital form of lateral sclerosis which depends upon an "injury to the skull by the forceps" at the time of birth? At another part of the work an account of the pathological anatomy of a case of pseudo-hypertrophic paralysis is given. We do not wish to question for one moment the accuracy of the description of the facts, but we cannot help saying that it is not what one would have expected in a disease which is essentially a chronic one, extending often over many years. A peculiar outgrowth from the cord is described as having been present in the cervical region, and we agree with the author in regarding it as a congenital, and not the essential, lesion. The value of figure 120 as an accurate delineation of the appearances is greatly diminished by the fact that the fissure became "much increased in the process of mounting," and from a portion of the

section having been lost. In fact, the whole plate is suggestive of some of the appearances at least having been produced artificially. The second point in this account is that there were "collections of leucocytes and patches of inflammatory softening around the blood-vessels." This we do not doubt, but simply say that it is not what one would expect in an essentially chronic disease. And thirdly, very little certainty can be founded on the presence of lacerations and fissures in the grey matter of such a delicate structure as the cord, which were produced during the process of hardening. No clinical account of this case is given in the book, and we have had no opportunity of turning it up in the *Lancet*. We have recently had the opportunity of removing and examining carefully the cord from a case of this disease of many years' standing, in which none of the appearances mentioned above were to be seen in any region. To students wishing to begin the study of the diseases of the spinal cord, or to medical practitioners who feel that their knowledge is not quite up to date, we can heartily recommend the book as a careful and exhaustive epitome of all that is known about this subject.

REPORTS OF HOSPITAL AND PRIVATE PRACTICE.

GLASGOW ROYAL INFIRMARY.

REPORTS UNDER THE SUPERVISION OF DR. WM. MUIR.

FROM DR. EBEN. WATSON'S WARDS.

STRUMOUS DISEASE OF ELBOW JOINTS—EXCISION.—[Reported by Dr. Keay.] Archibald Wallace, ætat 4, was admitted into Ward XXVI of the Royal Infirmary on the 19th April, 1882, with strumous disease of both elbows, and an abscess on back of right leg. On admission, the boy had a healthy appearance, as evidenced by rosy cheeks and well nourished body. He was born and reared in the country.

According to the statement of his mother, it would appear that, nine months before admission, both elbows became

slightly painful on pressure or movement, the left being worse than the right. Shortly after this she noticed swelling of the joints, and also that the power of movement was becoming very limited. On admission, the elbows were considerably swollen and quite stiff, and any attempt to flex the limbs caused great pain. There were two abscesses round the left joint—one on the inner, and the other on the outer side of the joint. There was also an abscess on the outer side of the right joint.

A few days after admission the abscess on the leg burst, and being dressed with water dressing, healed up in a few days. The abscesses round the elbow joints were opened and dressed antiseptically. On probing the wounds it was found that the abscesses communicated with the joints. Sinuses resulted, which, continuing to discharge, it was decided to excise both joints.

On 15th May, the boy being under the influence of chloroform, both joints were excised, each by a single longitudinal incision. On opening the left joint it was found to be very much diseased, and the articular ends of all three bones had to be sawn off. The right joint was not so bad, but still, the cartilages being diseased, the articular ends of the bones had to be removed. The joints were dressed antiseptically, and the limbs put on short straight splints, on which they were kept for a fortnight, the wounds being dressed about every third day. At the end of a fortnight the wounds were practically healed, not requiring dressing. Stiffening of the joints was now prevented by passive motion, and the limbs were kept in a flexed position by the wrists being fastened to the shoulders with elastic webbing, for several hours daily.

STRUMOUS DISEASE OF HIP JOINT—EXCISION.—[Reported by Dr. Keay.] Maggie Munro, *ætat* 7, was admitted into Ward XXVI on 25th March, 1882, with advanced disease of the right hip joint. The patient is a pauper and an orphan, and was sent to the Royal Infirmary from the Poor-house for excision of the joint.

The patient was in the Poor-house for three years, and was lame when she went there. Previous history not known. On admission she was very ill. Her body was much emaciated, and the cheeks and lips were pale. She had a very poor appetite. She was not able to stand, the leg and thigh were drawn up, and she complained of pain in the hip, occasionally very acute. There was a small sinus outside the joint, through which a probe could be passed right into the joint.

Hot fomentations were applied to the hip to relieve the pain whenever it was severe. The girl was fed up as well as possible, and got cod liver oil and chemical food. The patient soon began to improve under this treatment, and on 5th May the operation was performed. The anæsthetic used was chloroform, which the girl took badly. A straight incision was made over the head of the femur, which was then turned out and sawn off. The limb was placed in a long interrupted splint, and the wound dressed antiseptically. The day after the operation the wound was dressed and looked very well, but the splint, not fitting properly, was taken off, and simple extension with weights and pulley applied, the limb being fixed with sand bags. Next day carbolic acid was noticed in the urine, and on this account the wound was dressed with Eucalyptus-vaseline. Ten days after the operation the temperature rose to 103° Fah., and patient complained of great pain in her head. The head was shaved and an evaporating lotion applied, and the bowels, which were constipated, were moved by castor oil and grey powder. These bad symptoms gradually subsided, and after this her progress towards recovery was rapid and uninterrupted. Three weeks after the operation the wound was quite healed. There is now no pain, and the shortening of the limb can scarcely be noticed, even when the extension is off, as it is for several hours every day.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1881-82.

MEETING VIII.—5TH MAY, 1882.

PROFESSOR GEO. BUCHANAN, *President, in the Chair.*

DISCUSSION ON THE COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES.

The President called upon Professor Gairdner to open the discussion upon the Bills now before Parliament with regard to the compulsory notification of infectious disease.

DR. GAIRDNER, in responding, said that he did not at first think of taking up this subject, but finding that the President of the Faculty of Physicians and Surgeons had the Bills in his possession, and had submitted them to his council, where there was some difference of opinion as to the course that ought to be followed, he thought it right, even though the Medico-Chirurgical Society was not a political society, to bring up the question. It was a matter for which he had perhaps this one personal qualification, that he had acted as a medical officer of health, although he had not at any time been detached from medical practice so as to become exclusively an official. Exclusive officialism in matters of public health was one of the dangers of the time. Sanitary administration was becoming a very large thing, and no one could have a higher idea of it than himself, even if it were, to a certain extent, to replace curative medicine. This was one of the just results of the progressive importance of the preventive medicine of the present day, but he thought that the relations of preventive medicine as a department lying between the ordinary medical man on the one hand, and the sanitary officer on the other, were sometimes apt to clash. One of the dangers of this specialism of public health is that it may draw it out of the domain of the ordinary medical man and take it into that of officials.

Is it the case that public health occupies that place in our examinations that it ought to do? He did not mean in reference to special examinations, but does it occupy its right place in our ordinary examinations? He was afraid that this question must be answered in the negative.

The three Bills at present under review were a new start in public health legislation, and required to be closely and carefully scrutinised. He did not know the precise origin of the idea underlying them all, but thought that Dr. Littlejohn had originated it under a special Edinburgh Act.

The first of the three Bills, dated 10th February, 1882, and entitled, "A Bill to provide for the better Notification of Infectious Disease," had been discussed by the British Medical Association. The Irish Medical bodies saw objections to this Bill, and the result was an Infectious Diseases Notification (Ireland) Bill, bearing the date 10th February, 1882, and there was a third Bill with the same title, dated 27th February, 1882. There was no reasonable prospect of any of these Bills being passed in a hurry, and so the profession had plenty of time to see which was most to its mind, or whether any of them was to its mind. These Bills were the outcome of that

principle of the sanitary acts which makes it penal for any one knowingly, or even unknowingly, within the provisions of the Acts, to spread infectious disease.

Dr. Gairdner then reviewed in detail Dr. Russell's abstract of the existing sanitary laws, which mainly deals with the following points, viz. :—(1.) What are infectious diseases? (2.) The owner of a house, in which infectious disease has been, is bound to disinfect it, and this must be done to the satisfaction of the local authority. (3.) That it is illegal to use public conveyances, in which patients with infectious disease had been, without previously disinfecting them. And (4.) the abstract dealt with the exposure of the patient. The grasp of the law was wide, as was seen; and every member of the community was made personally responsible if he exposed another to infection.

Passing on to the consideration of the new Bills, Dr. Gairdner pointed out that the first Bill, while carrying out somewhat of the same principle in requiring early notification, departed from that other principle of the old law which made every individual directly responsible for the disease, and put the responsibility upon the medical man. The old sanitary law aimed at the education of every man to know what an infectious disease was, and what he must do to prevent its spread. But what the new one provides is that the moment a man calls in a doctor the responsibility falls upon the shoulders of the medical man. He did not say whether this was right or wrong, but it diminished the chance of educating the public as a whole.

Again, the old sanitary laws, while mentioning certain infectious diseases, do not define the whole limits of what the law recognises as infectious disease, but the new Acts do (clause 3). For the first time we have a railing put round the names of certain diseases until the local authority constitutes another. The old law simply says that infectious diseases are to be dealt with in a certain way.

The first Bill begins by requiring the medical attendant, if even only requested to attend a case of infectious disease (and he is within the terms of the law whether he attend or not), forthwith to transmit evidence. This brings up many points—*e. g.*, some men make up their minds more quickly than others. But the law says, while he is still doubtful, he is bound to give the disease a name and send it in. The old law put the responsibility on the persons themselves; the new one puts it on the medical man.

Clause 4 enacts that if no medical practitioner be attending,

then the owner shall, "so soon as he becomes aware," forthwith transmit, &c. The new law only makes it punishable as soon as he becomes aware, but the old law made it punishable simply to propagate infectious disease. If he were anxious not to be aware, he had simply not to call in a medical man, and then he was not punishable. Dr. Gairdner thought that in all this there was a danger of departing from the principles and lines of old sanitary legislation, whereby no man was allowed to injure his neighbour.

The Irish Societies thought that this was wrong, and while their Bills imitate the first of the three in naming a list of diseases, they are much nearer the old law in enacting that the person in charge *must* intimate, and they do not make any fine distinctions as to how he has obtained his information. The medical man, on the other hand, *may* notify. In this Irish Bill the principle of imprisonment is brought in. The second Bill is far more than the first on the lines of the old sanitary law, which makes the notification a part of the preventive measure. The third Bill more directly than the English one saddles the responsibility on the medical man.

With a good deal of Dr. Alfred Carpenter's pleading he did not agree. He did not think that medical men should be too thin skinned in objecting to bear responsibility for the public welfare, but in so doing they were shifting it from the right shoulders. A medical man's position is a confidential one, and he is not bound to extend his care beyond that. There are many delicate questions which might make notification an insult to a family. In these Bills too much is put upon the medical man. The householder is bound only to say that he "thinks so;" but the medical man is in a different position, because he is bound by his diagnosis.

Dr. Ebenezer Duncan had one objection to a Bill dealing with infectious disease in this fashion, although it was of the greatest importance that some notification should be made, especially in large towns. His objection to the Bill was, that medical science was not so far advanced as to specify many diseases. It would lead to endless discussion among medical men. The public think that one should be able at once to distinguish these diseases. Again, when one considered that sanitary officers were usually junior men, he thought it was not right to have the older men under them. He thought it a most invidious thing to pass an Act of this kind which puts a senior medical man under a junior. In Scotland, lodging house keepers were obliged to certify. He thought, therefore, it is quite easy to put the onus on the householder, and not

have the medical man in this disagreeable position. With regard to the kind of diseases, he thought the Bill was much too particular. Puerperal fever was one of them, but nobody knew what that was.

Dr. Thomson thought that there was no intention to do away with the present Public Health Act. One very extraordinary part was that the medical man was to be responsible, even if he had not seen the case after being called by people quite incapable of making a diagnosis. He thought the fee of 2s. 6d. quite generous (?) especially when it was given for the tenement, and not for the patients. The first Bill was unworkable.

Dr. Orr said that *Dr. Gairdner* had left no room for discussion. He thought that some people might think that the onus should fall on the medical man, as the Government wanted information, and looked to the medical man for it, who would communicate also with the householder. One objection to the Bill was that it interfered with relations between medical men and their patients, and he thought the present law was quite enough.

Dr. Renfrew thought the old law was a good one, and that it would be very hard to put on the medical man the onus of reporting the cases.

Dr. Thomas said *Dr. Gairdner* had made out preventive medicine to be a great thing. Now, how was it to be so? Manifestly through the medical officer. He thought it was right to define what were infectious diseases. If the notification were left to the householder, it would probably never be done; they are frightened to do it. This Act worked well in Edinburgh.

Dr. Lapraik thought that this cumbrous legislation was uncalled for.

Dr. Christie thought that the power of the old law was quite sufficient.

Dr. Sloan thought that no one would object to giving a certificate to the householder, and then letting the responsibility rest with him.

Dr. Gairdner, in reply, said the discussion was not without instruction. *Dr. Thomas* differed from him; but with regard to the other speakers, he had very little to answer. He thought every man ought to be a sanitary officer. *Dr. Orr* thought the present law would do, but he did not quite think that. Under the present law, infectious disease was a nuisance, and must be got rid of, and therefore notification should be a part of the law. There ought to be penalties against

concealment of infectious disease. With regard to the question of the definition of diseases, he remembered a medical man in the eastern part of the city, who told him that the people in his district never thought of calling in a doctor to see a case of measles. How, then, could medical men be depended on to notify an epidemic of measles? He thought it right to include in the list chicken-pox, so as to catch mild cases of small-pox. He did not like the idea of the notification depending upon the name of the disease. A case of disease, if for any reason whatever it was presumed or supposed to be infectious, ought undoubtedly to be notified whether the disease could be named or not. To wait until a medical man was satisfied as to the diagnosis might often be to wait much too long. Penal consequences ought to attach generally to all concealment of circumstances tending to the spread of infection; and every one, medical and non-medical, ought to be bound to give notice of such circumstances, at his peril.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.
SESSION 1881-82.

MEETING IV.—14TH FEBRUARY, 1882.

DR. HECTOR C. CAMERON, *President*, IN THE CHAIR.

PROFESSOR M'CALL ANDERSON showed a case of PARALYSIS, WITH UNILATERAL ANÆSTHESIA AND SWEATING. The patient was a man aged 49, and the case was interesting from the peculiar combination of symptoms. He enjoyed good health till 1867, when he had a severe attack of acute rheumatism, from which he made a good recovery. In 1875 he began to suffer from giddiness and a sense of fulness in the neck. These symptoms continued more or less till 1876, when one evening on returning from work and ascending a stair, he suddenly experienced a feeling of weakness, and supposing that it would soon pass off he sat down, but on attempting to rise again he was unable to do so. He thinks he was unconscious for a little; he was carried into the house, and it was then found that he had paralysis of both arms and legs, more particularly of the right arm and leg; the right side of the face too was paralysed, though not completely.

He soon completely recovered the use of the left arm and leg, but the paralysis of the right side of the body has never completely disappeared. In December 1881, after a wetting and while straining at stool, he suddenly experienced an increase in the paralysis of the right arm and leg. For a long time, and gradually supervening upon the first attack of paralysis, he has had well marked rigidity in the right arm and leg, and to a slight extent in the knee, which was slowly improving until the second attack of paralysis, since which it has been more marked. The following is a note of patient's condition when first admitted to hospital:—There was distinct paralysis of the whole of the right side of the body, with rigidity of the right arm and leg, and exaggeration of the patellar tendon reflex, but no ankle clonus. On the left side the paralysis was almost gone, but there was slight rigidity of the knee. On this side too there was distinct anæsthesia diminishing from below upwards. There was also very distinct unilateral sweating of the left side of the face. With regard to the cause of these symptoms Dr. Anderson thought that they were due to a double cerebral lesion, involving on the right side the sensory tract, and on the left the motor tract. With regard to the nature of the lesions he thought they were syphilitic—first, because there was a history of infection twenty-four years ago with corroborative signs now present; and secondly, because as the result of treatment (the rubbing in of mercurial ointment) all the symptoms had very greatly improved.

Professor Gairdner had very little doubt that Dr. Anderson's view was correct—viz., that there was a lesion on each side of the brain, and the syphilis, especially in the matter of treatment, gave additional probability to this view.

Dr. Alexander Robertson said that with regard to the nature of the disease the doubt had been removed by the results of the treatment; but with regard to the situation of the lesion he thought there was reason for difference of opinion. It was always undesirable to assume the existence of two lesions if one would account for the symptoms, and he thought it remarkable that two cerebral lesions should occur simultaneously. If we passed to the base of the brain we might find a part where a single lesion might account for the symptoms, and he thought it not at all unlikely that a lesion in the pons might cause them. With regard to the sweating the pons too had a good deal to do in presiding over vasomotor action, although from the history of

pain at the nape of the neck there might quite well be some implication of the cervical sympathetic.

Dr. Anderson, in reply, said he was glad that Dr. Robertson had entered upon the question of the situation of the lesion. He thought it not improbable that what he said about the symptoms was right; but with regard to the lesion being situated at the base of the brain there were two circumstances against it—viz., in such a case we usually find crossed paralysis, and the paralysis of the face is complete, not partial.

PROFESSOR GAIRDNER showed a case of PSEUDO-HYPERTROPHIC PARALYSIS. It was the most advanced case he ever saw, so advanced indeed as to have lost its characteristic points; but the history proved it to be a veritable case, and it was one of five which he had had in the Western Infirmary. The patient was 12 years of age, and the disease was of two years' duration. At first it was consistent with standing or walking. He usually had a waddling gait, and was unable to raise himself up a step, and so on. The calves were now diminishing in size. In less than a year from the first symptoms he was unable to stand or walk. Then the arms became involved. As usual, the growth of the disease had been perfectly painless, although there had been pain in the back and the calves on overstretching. Sensibility was quite preserved. The tendon reflex was absent. The general nutrition was fairly good, but there was relative atrophy of the upper muscles of the body. It appears that his mother was twice married, and that a son by the previous marriage, and also a maternal aunt of the patient, æt. 38, were similarly affected.

DR. MACKELLAR showed an ANEURISM OF THE ABDOMINAL AORTA, which had undergone spontaneous cure. During life, forward pulsation could be distinctly felt, but no lateral pulsation, and the tumour was supposed to be omental. The patient died of pain and exhaustion consequent upon a dysenteric attack. On opening the body the tumour was found to be an aneurism of the abdominal aorta, filled with firm stratified clot, and with a loop of bowel adherent to its anterior wall. The case was reported in full in the *Lancet* for 5th November, 1881.

DR. THOMAS REID showed a TUMOUR OF THE LACHRYMAL GLAND, presenting the characters of a fibrous enchondroma.

The patient was a lad aged 19, who was first seen at the Eye Infirmary on 24th Feb., 1881, on account of an injury to the right eye from a blow with a piece of wood.

On examining the eye, in addition to a slight traumatic inflammation, a fluctuating tumour was found between the eyeball and the upper margin of the orbit towards the outer aspect, causing some fulness of the upper lid and pushing the eyeball very slightly downwards and forwards. The patient had suffered so little inconvenience that he was not aware of the existence of the growth; an inquiry elicited no history of a possible cause except that, eight months before, the conjunctiva of the right upper lid had received a slight burn, and that since then the eye had been rather subject to lachrymation. He was admitted as an indoor patient, and on further examination the tumour, which seemed chiefly cystic, was found firmly adherent to the periosteum at the upper and outer aspect of orbit. On the 21st of March the cyst was punctured, and a considerable quantity of fluid, showing traces of epithelial and fatty debris, drawn off. The slight degree of exophthalmos was almost entirely removed, and patient was dismissed to attend the dispensary. On the 4th of June he was re-admitted, the tumour having increased in size, and caused considerable displacement of the globe downwards and inwards. The cyst was again opened, and a considerable amount of a similar fluid drawn off. Although poultices were applied the wound ere long healed, and as the solid part of the growth still seemed increasing, its removal was decided on. This was done on the 25th of June, an incision being made under the superior margin of the orbit, and the tumour dissected out. It was about the size of a large walnut, and was found to extend deeply into the orbit, being firmly adherent to the periosteum near the site of the lachrymal gland, which structure was apparently involved in the growth. Some bleeding occurred after the operation and was controlled by cold applications and pressure; but the presence of the blood-clot interfered with the nutrition of the cornea, which sloughed in a few days. A free discharge of pus continued from the wound and from an opening in the ocular conjunctiva at its lower aspect for some weeks. When the patient was dismissed on the 13th of August the wound was completely healed, except at its outer part, where a small growth presented, apparently of the same structure as the tumour removed. He was re-admitted in January of

this year, and the growth which had recurred was removed on the 14th.

DR. THOMAS REID showed a MELANOTIC SARCOMA OF THE CHOROID, and read the following note of the case:—

Mrs. G., æt. 48, consulted me in August 1876 for dimness of vision of the left eye. With the ophthalmoscope, what was at the time supposed to be a separation of the retina was observed in the lower aspect of the *fundus oculi*. In September following the vision was suddenly abolished. Two years after she had severe pain in the eye, extending to the head. In April of the present year a swelling appeared at the lower aspect of the eyeball externally. Exactly a month ago I saw her for the first time since the examination in 1876. A tumour about the size of a filbert occupied the lower half of the eyeball, extending from the margin of the cornea backwards. The lens was cataractous and the iris thinned and arching forwards as we often see in intraocular tumours. Enucleation was recommended and immediately performed. The cavity of the orbit contained an unusual amount of fatty tissue, part of which was removed with the eyeball. On making a vertical section of the ball after being hardened in chromic acid the tumour was seen to be in communication with the choroid through an opening in the sclerotic at some distance from the corneal margin. The choroid at this point was considerably thickened, and in the ciliary region had developed into a small tumour. Although the greater part of the tumour is on the external surface of the eyeball, there can be no question of its intraocular origin, and assuming that the appearance of separation seen six years before was the first indication of its presence, its history differs little from that of other intraocular tumours which sooner or later find their way to the surface of the eyeball by penetrating the sclerotic coat, although in most cases the cavity of the eyeball is filled with the morbid growth before this occurs.

DR. W. L. REID showed a CAST FROM A CHILD'S HEAD, taken after delivery had been effected by turning and forceps, which was greatly moulded by contraction of the pelvis. After three confinements of extreme difficulty, Dr. Reid resorted in the fourth to the induction of premature labour at the eighth month. An arm and funis presented. Turning was employed, but the head had to be delivered

by forceps. The child was dead. The pelvis was universally contracted, with a conjugate diameter of $3\frac{1}{2}$ inches. The following were the chief measurements of the moulded head:—Occipito-frontal, $4\frac{1}{2}$ inches; biparietal, $3\frac{1}{2}$ inches; occipito-mental, $5\frac{1}{2}$ inches; sub-occipito-vertical, $3\frac{3}{4}$ inches; sub-occipito-bregmatic, 4 inches; sub-occipito-frontal, $4\frac{3}{4}$ inches.

Dr. Samuel Sloan considered the case very interesting in relation to the question as between forceps and turning. He regarded it not as a case of flat pelvis, but of generally contracted pelvis.

DR. NEWMAN showed a LARGE TUMOUR which entirely filled the abdomen and pushed the other organs, which were healthy, up towards the thorax. It was firmly adherent to the abdominal walls, uterus, bladder, and rectum. It contained about 350 ounces of a thick viscid fluid like pus, which was rich in albumen, cholesterine, and large compound granular corpuscles. Inside the cyst were two large solid tumours corresponding in situation to the ovaries, and no ovaries could be found elsewhere. The solid masses consisted of large round cells, with a slight fibrous stroma.

Dr. Scott Orr gave a short note of the clinical history.

DR. NEWMAN also showed specimens from a case of HEPATIC ABSCESS, where there had been jaundice for some months. The abscess contained 20 ounces pus and many calculi. There was no gall-bladder, but a communication existed between the duodenum and the cavity of the abscess, showing probably that the abscess had originated in the gall-bladder. There had been a history of jaundice and ascites, but of no other symptoms bearing on the case.

GLASGOW SOUTHERN MEDICAL SOCIETY.

SESSION 1881-82.

MEETING XV.—1ST JUNE, 1882.

DR. N. CARMICHAEL, President, in the Chair.

THE PRESIDENT read a paper on THE PHYSIOLOGICAL AND THERAPEUTIC ACTION OF ACID METHYL SALICYLATE (OIL OF GAULTHERIA) AND SALICYLOUS ACID (OIL OF SPIRÆA).

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Gaultheria procumbens, popularly known as wintergreen or teaberry, is a small shrub belonging to the Ericaceæ, and found abundantly in America. Distilled with water the plant yields an oil consisting of acid salicylate of methyl (90 per cent) and a terebene (10 per cent) separable by fractional distillation. The oil is a clear colourless liquid, of oily consistency, having a powerful agreeable odour, and a sweetish aromatic taste. It is the heaviest essential oil (sp. gr. 1.18). It is slightly soluble in water, freely soluble in alcohol, in ether, and in fixed oils.

When taken internally undiluted, it produces considerable heat in the fauces, œsophagus, and stomach, followed by a little nausea. It is speedily absorbed into the blood. It is excreted mainly by the kidneys, giving to the urine its characteristic odour, and it is readily detected by chemical tests in the urine; it is also partly excreted by the skin and by the bronchial mucous membrane. To the stomach it acts as a stimulant in large doses, causing nausea and vomiting. It is a powerful antiseptic. One part to 200 of urine preserved the latter for 18 days. Within the system and on the excretions with which it is discharged it acts as an antiseptic. Urine voided one hour after taking 20 drops of the methyl-salicylate, remained for 12 days perfectly free from putrefaction, while urine passed immediately before the salicylate was taken became in a few days very putrid and ammoniacal. Therapeutic action—carminative and stomachic stimulant. As a diuretic it may be used in dropsies, cardiac, renal, and hepatic, but should not be relied on to the exclusion of other diuretics. It combines well with digitalis. In chronic cystitis, especially when the urine is ammoniacal, and as an expectorant in bronchitis, &c., it has proved serviceable. In rheumatism, acute and chronic, great benefit has attended the use of this drug; it immediately removed the sour odour of the sweat.

Salicylous acid=salicyl hydride, oil of spiræa. $C_7H_6O_3$. Oil obtained by distilling queen of the meadow (*spiræa ulmaria*) with water. The oil has an agreeable odour, like the plant. The taste and odour are much more pleasant than those of methyl salicylate. Salicylous acid may be prepared artificially by the oxidation of salicin, and this was the mode of formation of the oil used in these experiments.

On the lips it produces a tingling and burning sensation. Swallowed undiluted it produces disagreeable heat in the fauces, œsophagus, and stomach. On the skin it makes a

yellow stain like that of picric acid, due to the formation of alkaline salicylites. The physiological action is much like that of methyl-salicylate. It is a powerful antiseptic. One to 500 watery solution makes an antiseptic lotion. Ten drops taken internally act on urine, excreted an hour later, as a decided antiseptic.

The therapeutic uses are much the same as those of methyl salicylate. It has proved specially useful in chronic cystitis, in doses of 2-5 drops, and in enteric fever. In one case of enteric fever it greatly lessened the foetor of the stools, and imparted its own odour to the urine.

These substances may be administered in solution in water (1 in 250), in solution in spirit, in pill, or by inhalation.

In phthisis and in chronic bronchitis great relief to the cough, with marked diminution of the sputum have followed this use of these drugs. Dr. Carmichael recommended the use of these substances, especially salicylous acid, by inhalation in bronchitis, asthma, and phthisis; by the stomach in typhoid fever, and in cystitis, especially with ammoniacal urine; and the methyl-salicylate in rheumatism and in rheumatic fever.

Dr. C. showed wire respirators suitable for good inhalers, made by Mr. Hilliard, Renfield Street.

Dr. A. Napier had for some time been familiar with the fact that oil of gaultheria is largely used in America as a flavouring agent, especially for syrups; but the use to which it, as well as the oil of spiræa, had been put by the President, was new to him. The chemical relation which those bodies bear to carbolic, benzoic, and similar acids, suggests their use as antiseptics. One important point gained seemed to be that we had here antiseptics which, besides being efficient, were pleasant in odour. He thought that these bodies would prove most valuable in the treatment of cystitis and of phthisis. The recent announcement of Koch's views as to the pathology of tubercle would make us resort more largely to the use of antiseptic inhalation in the treatment of this disease. The open inhalers shown by Dr. Carmichael also were excellent, closed inhalers being often thrown aside, partly from the instinctive dread of suffocation so commonly complained of by phthisical patients, partly from the fact that a closed respirator heats the air confined within it, and causes the patient to perspire more freely, and partly from the annoyance of having to remove an obstruction from the mouth each time the patient coughs or expectorates.

Mr. A. E. Maynard asked whether, seeing that the drug had proved so effectual in chronic cystitis, the President had any theory as to its action in that affection; whether it acted on the urine only, or on the mucous membrane of the bladder, or how?

Dr. McVail laid most emphasis on the circumstance that salicylous acid is a drug which acts as antiseptic in the system, and yet passes through the system unchanged.

Dr. J. Walls White, having been engaged for some years in working on salicylic acid and the salicylates, naturally felt much interest in what had been said with regard to these two drugs. He still insisted on the great value of the salicylates, especially the salicylate of iron; they were of much use in the zymotic diseases, more particularly scarlet fever.

Mr. Gilmour suggested that part of the effect produced by the salicylous acid, more especially in cystitis, might be due to a numbing action on sensation in the mucous membranes; his lips and tongue, which he had touched with a little of the acid a short time before, were now quite devoid of feeling.

The President, in reply, said that he believed that in cystitis the action of salicylous acid is mainly that of an antiseptic. Certainly a part of the drug passes unchanged from the system, but he was not at all sure that the whole of it was so eliminated.

DR. R. W. FORREST then made some remarks regarding several cases of SEVERE ILLNESS RESULTING FROM THE EATING OF UNCOOKED HARICOT BEANS (the beans of *phaseolus vulgaris*). He first referred to some cases of which he had given an account at a Meeting of the Society on 27th May, 1880, the prominent symptoms in which were vomiting, purging, and collapse. Since that time he had had two other cases. Two young men, joiners, at work in a grocer's store, just before leaving for the evening, picked up and ate a number of haricot beans which were lying about. They had hardly reached home when they felt sick, and vomiting set in; at first, only the contents of the stomach came up, but the continuous retching soon brought up fluid loaded with bile. One of them was also purged freely, and had frequent attacks of cramp in the lower limbs. When seen, about three hours after having eaten the beans, they were both suffering very acutely; the pulse was feeble, the breath felt cold to the hand, and the temperature, taken below the tongue, was subnormal, in the one case about 97° F., and in the other rather above 96° F. The symptoms gradually subsided, and next day both patients were quite well, though

somewhat exhausted. Some of the beans were shown, and identified as the ordinary haricot bean.

Dr. A. Napier read notes of a similar case. On 6th October, 1881, at 1 P.M., a little boy, aged 4, ate one uncooked haricot bean, and soon after complained of severe pain in the abdomen. At dinner, at 2 o'clock, he ate but little, and his mother, becoming alarmed, gave an emetic of mustard and water, and then some extract of rhubarb. The vomiting started by the emetic persisted, and at 6 P.M., when he was first seen, was still going on. The child was drowsy, but woke up, and answered when spoken to; his pupils were widely dilated and sluggish, the surface was warm and moderately moist, the pain had gone, and there was no uneasiness on pressing on the abdomen. The vomited matters were watery. Pulse 125. Temperature 99.5° F. It came out that the boy had had a fall on the previous day, and had struck the back of his head on a stool. The question then arose, Was his state due to the fall or to the bean? On the morning of 6th October he had been apparently in his usual health, however. The child was put to bed, a dose of castor oil was given, and a mustard and linseed poultice was applied to the abdomen; directions were also given that he should drink freely of barley water and albumen water. Next day he was perfectly well. It is noteworthy that here there was no purgation. The mildness of the symptoms was probably due to the fact that but one bean was eaten, and to the promptitude with which an emetic was administered.

Dr. J. Glaister stated that he had met with similar symptoms from the eating even of uncooked ordinary horse beans, and that all kinds of beans, eaten raw, are apt to cause them.

Mr. F. Freer related a group of cases in which a whole family—father, mother, and children—suffered from all the symptoms of "British Cholera," from the eating of raw haricot beans.

Dr. Pollok gave an account of a singular case he had had that day. A man had consulted him about a tumour in the umbilical region, and in examining and pressing this swelling, Dr. Pollok extracted from the umbilicus an ordinary haricot bean. The bean was in a macerated condition, and had a distinctly faecal odour. The man had no recollection of having put it into the umbilicus.

Dr. A. T. Smith said that the eating of raw haricot beans was not always followed by symptoms such as had been described, as he himself had eaten some of these beans without suffering in any way.

M E D I C A L I T E M S .

UNDER THE DIRECTION OF
ALEX. NAPIER, M.D.

Resorcin in Diphtheria.—The area of usefulness of this new drug is rapidly extending, according to Dr. Justus Andeer. Having used it with success in all acute and chronic infectious diseases of the skin, he now recommends it very strongly in all infectious disorders of the mucous membranes of the entire body, especially of the head, such as those of the organs of the senses, the mouth, the pharynx, &c. During the last five years he has treated the most formidable of all these affections—diphtheritis, with resorcin only, in a chemically pure form, his cases including diphtheritis of the organs of the senses, of the gums, tonsils, soft palate, uvula, nasal cavities, and larynx, as well as diphtheritic affections of large superficial wounds, of the perineum ruptured in labour, and of wounds of the vagina in the puerperal period; 222 such cases were treated, and *all of them, without exception, recovered.* In the slighter forms of the disease, a sharp cauterising, with crystals of resorcin or with a concentrated ointment of resorcin in vaseline, is sufficient; in more severe cases this has to be repeated; in the most severe cases the resorcin has to be used both internally and locally. The author further states that, while the frequent relapses noticed after treatment with resorcin in cancerous and syphilitic disorders show that the local application of this drug is of no avail unless other specifics be used internally, so, on the other hand, these cases of diphtheritis treated in the manner above described, prove that this affection is of a purely local character, inasmuch as the morbid process in the slighter and moderately severe cases can easily be cut short simply by the local use of resorcin.—*Centralblatt f. d. Med. Wiss.* 20th May, 1882.

Sulphide of Calcium as an Antisuppurative.—Dr. Andrew H. Smith, Chairman of the Committee on Restoratives of the Therapeutical Society of New York, furnishes to the *New York Medical Journal and Obstetrical Review*, for June, 1882, a report of the committee on the use of sulphide of calcium for the purpose of preventing or diminishing suppuration. After giving the experience of several members of the

society, Dr. Smith concludes his report as follows:—Judging from this limited number of cases, it would seem that we are warranted in concluding that, in many cases of suppurative affections, ranging from the small pustules of acne to extensive suppurating surfaces, an appreciable, and often a very marked, benefit is derived from the use of the calcium sulphide, suppuration which would otherwise take place being averted, or the quantity and duration of an existing discharge being lessened. At the same time its action is not uniform; and in many apparently favourable cases it will fail entirely. The drug is somewhat prone to irritate the stomach, and this circumstance affords an indication for small doses frequently repeated instead of larger ones at longer intervals. One tenth of a grain every two hours in acute cases will generally secure the full therapeutical action of the drug, but larger doses may sometimes be required, and some patients will bear well a grain three or four times a day. Even in small doses the sulphide will occasionally produce headache, and the patient is usually more or less annoyed by eructation of sulphuretted hydrogen.

Aftertreatment of Operations in the Vagina.—Dr. Hans Schmid, of Berlin, strongly recommends salicylic acid powder as an antiseptic after operations such as amputation of the cervix uteri. By means of a glass tube and piston, a pillar of the powder is left in the vagina, from which all fluid has been previously removed. This is allowed to remain from one to three weeks, and when taken away the wounded surface is usually found whole, with no trace of bad odour. This treatment is also advised in cases of erosion of the cervix. —*Centralbl. für Gynæk.* March, 1882.—W. L. R.

The Varieties, Mechanism, and Diagnostic Significance of Mitral Presystolic Cardiac Murmurs.—From a careful clinical study of the varieties, mechanism, and clinical significance of mitral presystolic murmurs, in the *American Journal of the Medical Sciences* for April 1882, Prof. Austin Flint draws the following conclusions:—

1. There are two varieties of this murmur, which are distinguished by differences in quality and in mechanism. One variety is a rough, and the other is a soft, murmur.

2. The roughness in the first of these varieties is characteristic, and may be distinguished as vibratory or blubbery. The softness of the second variety is bellows-like, like other

soft cardiac murmurs. It may vary in pitch and intensity, but as a rule it is low and weak.

3. The rough murmur is due to vibrations of the curtains of the mitral valve, caused by the passage of blood from the auricle to the ventricle. The soft murmur, like other bellows murmurs, may be due either to contraction of the orifice through which the blood passes, or to roughness of the surface over which it flows.

4. A rough presystolic murmur denotes a mitral obstructive lesion, the obstruction due to adhesion of the mitral curtains, leaving a contracted orifice, the curtains remaining flexible. A presystolic soft murmur denotes either a contracted orifice or roughness of the endocardial membrane.

5. A rough presystolic murmur, exceptionally, is produced when there is no mitral lesion, aortic regurgitation existing whenever the murmur is thus produced. The production of this murmur without mitral lesion may be explained by the physical conditions incident to aortic regurgitation, taken in connection with the mechanism of the murmur.

6. A rough mitral presystolic murmur is not always present in connection with contraction of the mitral orifice, and by reference to the physical conditions, together with the mechanism of the murmur, its absence in certain cases may be satisfactorily explained.

7. A soft mitral presystolic murmur is a very rare physical sign. A rough mitral presystolic murmur, on the other hand, is by no means rare, although less frequent in its occurrence than the mitral systolic, the aortic direct, and the aortic regurgitant murmurs.

8. Mitral lesion giving rise to presystolic murmur is sometimes tolerated for a much longer period than appears to be generally supposed.

Is the Ovarian Cell Pathognomonic?—The accurate diagnosis of ovarian tumor is of vital importance, as mistakes are by no means rare, even among our most skilful diagnosticians.

In the *American Journal of the Medical Sciences* for April 1882, Dr. W. A. Edwards publishes an account of some researches made in the Pathological Laboratory of the University of Pennsylvania, bearing on the value of the ovarian cell as a diagnostic point, from which he concludes:—

1. The ovarian cell is not diagnostic of the ovarian tumour.
2. We may have a fluid from an ovarian tumour entirely devoid of the ovarian cell.

3. On the other hand, we may have an abdominal fluid which is not ovarian, presenting the cell in great abundance.

4. With the present state of our knowledge, the accurate microscopical diagnosis of ovarian dropsy is impossible; the most distinguished ovariologists always make their first incision an exploratory one.

New Bivalve Speculum.—Dr. A. Auvard, of Paris, has devised a modification of Cusco's instrument. The blades are flat and separable by means of an open lock, and the lower one is fitted with a strong wooden handle which turns on its axis so as to stand either at an acute or obtuse angle with the blade, according to the wish of the operator. When this angle is made acute and the upper blade removed, a good univalve speculum, like that of Sims, is formed. When both blades are in position and the angle obtuse, a screw like that of Cusco's is brought into play, by means of which the points are made to diverge.

Auvard claims the following advantages for his instrument. The flat points give less pain in introduction and do not interfere with the application of a tampon. It may be used either as a univalve or bivalve, and in any of the usual positions. The chief disadvantage it has is that common to all bivalves—viz., the vulvar orifice is too small to permit of free manipulation through it, and yet too large to avoid giving pain in the case of a nulliparous vagina. It seems to be on the whole a very convenient and useful instrument.—*Bull. Gén. de Thérap.* November, 1881.—W. L. R.

Treatment of Commencing Cataract by Electricity.—Neftel employs galvanism with success in the treatment of various eye diseases. Certain forms of choroiditis are susceptible of great amelioration by this means. Two cases of commencing cataract, diagnosed by excellent observers, were submitted to the same treatment; one of the patients could not read, while the other distinguished the fingers of the hand at a moderate distance; acute vision was destroyed. After twenty-five séances in one case and thirty in the other, the acuteness of vision was much improved. One of the poles was applied to the eyelid the other to the back of the neck.—(*Virchow's Archiv*, Bd. lxxix, H. 3, 465.) *Lyon Médical*. May, 1882.—J. A. A.

Incontinence of Urine in the Female.—Dr. Frank, of Cologne, has planned and practised a new operation for the

relief or cure of cases where the sphincter vesicæ has been so injured as to lead to incontinence. He points out this condition often exists after a fistulous opening in the bladder has been closed, and that such cases are very difficult to manage. He treats the urethra as one would an over dilated rubber tube, by cutting a piece out of its circumference, so that less contractile power is sufficient to close it. A narrow strip is cut out of the whole length of the urethra, rather more tissue being removed at the seat of the sphincter. The sutures are not to be taken out till about the eighth day. A case is given where this method was successfully followed.—*Centralbl. für Gynæk.* March, 1882.—W. L. R.

Erigeron Canadense and its Therapeutical Applications.—MM. Vigier and Ch. Cloez publish, in the *Répert. de Pharm.*, October, 1881, their researches on this plant and its essence, which is used in the adulteration of mint obtained from America. The erigeron oil is official in the United States, where it was first used by the "eclectic" physicians as a remedy for diarrhœa, dysentery, and hæmorrhages. All those who have more recently used the drug, and more especially its essence, agree in stating that it is most efficacious in all forms of the affections above named, and in intestinal hæmorrhage occurring in the advanced stages of typhoid fever. The plant contains a bitter extractive matter, tannin, gallic acid, and a volatile oil. It may be administered in powder, in doses of 2 to 4 grains every hour; in an infusion of 3 per cent strength; or in pills of aqueous extract, 5 to 10 grains being given several times daily. The volatile oil may be given internally in hæmorrhages, in doses of 5 to 10 drops every hour. Applied to the skin, it acts as a rubefacient without producing vesication. It is also used externally, pure or mixed with alcohol, in cases of swelling of the throat, and as a local application for uterine hæmorrhage and for ulcers of the throat. The hæmostatic action of this essential oil seems to resemble that of the oil of turpentine.—*Bull. Gén. de Thérap.* 15th February, 1882.

Large Pleuritic Effusion without notable Diminution of Vocal Resonance and Fremitus. Diffused Bronchophony in Cases of Pleuritic Effusion.—Notable diminution or suppression of vocal resonance and of vocal fremitus are signs justly relied upon in the diagnosis of pleuritic effusion. They are generally reliable. It is, however, important to take cognizance of the fact that in rare instances they are

apparently wanting. This fact is exemplified in a case reported by Professor Austin Flint, in the *American Journal of the Medical Sciences* for April, 1882, in which an exploratory puncture showed the presence of serous liquid within the right pleural cavity, with dulness on percussion over the whole right side of the chest.

Over the scapula and in the infra-clavicular region, the respiration was bronchial, and there was marked bronchophony. Over the remainder of this side there was absence of respiratory murmur, *but the vocal resonance and fremitus were somewhat greater than on the left side.*

Dr. Baccelli, an Italian physician, maintains that by means of the whispered voice the nature of the liquid within the chest may be ascertained. According to his observations, if the liquid be serous, the whispered voice is well transmitted through the liquid, and is pectoriloquous in character. On the other hand, the voice is not well conducted if the liquid be purulent. Dr. Flint further states that in the last case of empyema which he saw the loud and the whispered voice were conducted over the whole of the affected side of the chest with such intensity that there had been doubt as to the presence of liquid, although the patient had been previously aspirated. The aspiration was repeated, and a very large quantity of pus withdrawn. In the case reported in this paper the liquid was serous, and although the vocal resonance and fremitus were but little diminished, there was no diffused conduction of whispering bronchophony or pectoriloquy.

Traumatic Lesions in Syphilitic Subjects.—Petit gives a translation in *Arch. Gén. de Méd.*, June and July 1881, of articles by Tolima, surgeon to the Hospital for Incurables at Naples, which appeared in the *Giorn. Intern. delle Scien. Med.*, fasc. 10, 11, and 12, 1879, dealing with the above mentioned subject. The general conclusions are summarized as follows:—

The primary sore (true chancre) produces induration in wounds which are in continuity with it; on wounds at a distance from it it produces no effect.

Wounds received in the interval between the primary stage and the general infection of the system, and some in the very earliest stages of the latter, are not affected by the syphilis.

Wounds occurring during the secondary period, whether situate near or at a distance from the seat of syphilitic manifestations, may assume specific characters, or the healing processes may merely be rendered stationary till specific

treatment is employed; in the interval of latency of the secondary period the syphilis exercises the same influence as during its activity.

Tertiary syphilis has no influence upon the progress of wounds, except occasionally, when it may convert them into specific ulcers or merely arrest repair; even this does not occur in latent tertiary syphilis.

Traumatic lesions in any stage of syphilis may become the centre of new specific manifestations, or may determine their outbreak elsewhere. The latter occurs especially in the secondary stage, seldom in the tertiary; the former occurs in both.

Traumatic lesions received before infection with syphilis may, after infection, become the centre of syphilitic manifestations.—*Centralbl f. Chir.*, No. 41, 1881.—D. M'P.

Permanent Œsophageal Catheterism.—Dr. Krishaber recommends (in *Ann. des Maladies de l'Oreille et du Larynx*, November, 1881) the employment of the permanent Œsophageal catheter for stricture of the Œsophagus in certain cases of phthisis complicated with dysphagia, and in labio-glossopharyngeal paralysis. He concludes:—

1. That the Œsophagus tolerates a catheter for an indefinite period.

2. That the catheter should be introduced by the nose, not by the mouth.

3. That the continued presence of the catheter effects the dilatation of the stricture, so as to render possible the introduction of instruments gradually increasing in size, just as in urethral stricture.

4. A gum-elastic catheter should be introduced first; in a few days one of india-rubber may be substituted, as it is more readily tolerated, and this removal and substitution should be made at one sitting.

5. This mode of treatment renders alimentation certain, and obviates risk of making false passages, as in intermittent catheterism.

6. When the stricture necessitates Œsophagotomy, the catheter should be inserted as soon as the incision is made, so that cicatrisation may take place round it, thus preventing recurrence of the stricture.

7. This permanent catheterism will find daily application in cases of stricture due to cancer, cicatrices, or benign tumours, and may be resorted to also in forcibly feeding the phthisical, paralytics, lunatics, and patients in a state of stupor or coma.

8. The permanent cesophageal catheter is also of the greatest use in important operations about the face, mouth, and nasopharyngeal cavity.

9. In these last-mentioned cases the soft rubber catheter should be introduced some days before the operation, and retained in position till the cure is complete.—*Bull. Gén. de Thérap.* 15th February, 1882.

The Abortive Treatment of Buboës with Carbolic Acid.—Dr. Morse K. Taylor, U.S. Army, in the April number of the *American Journal of the Medical Sciences*, publishes a paper on the abortive treatment of buboës by injections of carbolic acid.

He reports twenty cases in which he certainly obtained remarkably successful results, and he states that within the last seven years he has treated nearly one hundred and fifty cases of various forms of lymphadenitis, arising from specific and non-specific causes; and, where he saw the cases before the formation of pus was well established, he had not failed to arrest the process immediately, and allay the pain in a few minutes. His method is to inject from ten to forty minims of a solution, containing eight or ten grains to the ounce, directly into the interior of the inflamed gland.

Amussat's Laxative Syrup.—This syrup, the formula for which is now published for the first time, has been used for many years by the Drs. Amussat—father and son—against obstinate constipation, and in cases in which it was necessary to keep the bowels freely open:—

Guaiac wood, in raspings, . . .	100 grammes.
Chicory root (<i>Cichorium Intybus</i>), .	100 „
Burdock root (<i>Lappa Officinalis</i>), .	100 „
Waterdock root (<i>Rumex Patientia</i>), .	100 „
Fumitory tops (<i>Fumaria Officinalis</i>), .	100 „
Tops of <i>Viola Tricolor Arvensis</i> , .	100 „
Senna leaflets,	500 „

Bruise these substances together, and infuse them for twelve hours in 5 kilogr. boiling water; strain, and infuse again with 3 kilogr. water; strain under pressure, clarify, and add 3 kilogr. honey and 3 of sugar. The syrup should have density 31 degrees on Baumé's densimètre. This syrup has an agreeable taste, and its dose is one to two tablespoonfuls daily.—(*Gaz. Hebd. de Paris*. No. 22). *Lyon Médical*. 4th June, 1882.

Prolonged Gestation.—In the May number of the *New York Medical Journal and Obstetrical Review* Dr. Louis A. Rodenstein, of New York, reports four cases of prolonged gestation, and remarks that the number of cases cited upon undoubted authority by every writer on obstetrics, and the cases constantly reported as occurring under the personal observation of general practitioners, go to show that prolonged gestation is not a myth, and especially that it should not be explained away by questioning the virtue of the mother. How long the duration of the period of gestation can extend beyond the normal time is not yet determined, perhaps cannot be determined, but that it may extend over two months is apparently settled. The same principle is involved, whether the uterus tolerates the presence of the child three days or one hundred and forty-five days (Professor Meigs's "Report") after the natural term of gestation has expired. He believes that, after the uterus has performed its physiological function of gestation for the natural term, it rests from the work of gestation proper. Why does it not, then, exercise the function of expulsion? That question he does not attempt to answer, but believes that after gestation has performed its proper and peculiar work the growth of the child is complete, and it thereafter lies dormant in the womb. Otherwise the child would grow to huge size, and its delivery in the natural way would be impossible; whereas in the cases cited the size of the child at the expiration of the period of prolonged gestation was normal.

Injectations into the Substance of the Lung.—Dr. E. Fränkel has injected acetate of alumina, carbolic and boracic acids, and iodoform into the substance of the lungs of rabbits, by means of an ordinary Pravaz syringe, to which, in order to prevent hæmorrhage, he had attached slender needles. The number of injections varied from one to six daily, this number being sometimes given on many successive days, at other times with a few days' interval. The animals were apparently very little affected by the procedure; some even gained in weight. After they were killed there were found indications of extravasation, proliferation, and infiltration in the pleura, and in the lung tissue. These were all progressing towards recovery, either by absorption or by the formation of cicatricial tissue. The author suggests that in cases of disease of the apices, injections might with advantage be made both in the affected parts and in the healthy tissue adjoining, to change the character of the inflammation in the first situation;

and in the second to increase its powers of resistance, and by the production of cicatrices, to lead to the formation of a barrier, which should arrest the extension of the morbid process. He recommends his method also in putrid bronchitis and gangrene of the lung. In the case of one patient, who expectorated foetid sputa, he made six injections, using latterly 3 grammes of a 5 per cent watery solution of carbolic acid; not the slightest reaction, not even a single cough, followed this little operation, but there remains the fact that the odour of the sputum was not in the least degree modified.—(*Deutsche Med. Wochenschr.* No. 4, 1882). *Obl. f. d. Med. Wiss.* 10th June, 1882.

Prolonged Retention of Placenta.—Dr. G. Hamilton records, in the *Med. and Surg. Reporter*, 18th March, 1882, a case in which, after an abortion at about two and a half months, the placenta was retained for six months, and finally discharged by uterine contraction. It came away entire, free from any sign of decomposition or of atrophy, its fresh condition being explained by the numerous vessels, recently severed, which marked the part by which it had been attached to the uterine wall. During the six months which had elapsed the patient had suffered from repeated attacks of pain, accompanied by considerable loss of blood.

Books, Pamphlets, &c., Received.

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- The Sphygmograph: its History and Use as an Aid to Diagnosis in Ordinary Practice. By R. E. Dudgeon, M.D. London: Baillière, Tindall & Cox. 1882.
- The Physical Signs of Pulmonary Disease. By Graham Steell, M.D. For the Use of Clinical Students. Edinburgh: Mac-lachlan & Stewart. 1882.
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- Lehrbuch der Krankheiten der peripheren Nerven und der Sympathicus, für Aerzte und Studirende. Von Adolph Seeligmüller. Mit 56 abbildungen in Holzschnitt. Braunschweig: Friedrich Wreden. 1882. (Vol. V of same.)

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- Hospitals: their History, Construction, and Hygiene: being a Thesis for Graduation at the University of Edinburgh, for which a Gold Medal was Awarded. By J. Francis Sutherland, M.D. Edin., Surgeon to H.M. Prison, Glasgow. Edinburgh: E. & S. Livingstone. 1882.
- Spasmodic Asthma: a Thesis by W. E. Steavenson, M.B. Second Edition. Cambridge: Deighton, Bell & Co. 1882.
- Clinical Lectures on Diseases of the Urinary Organs. Delivered at University College Hospital. By Sir Henry Thompson. Sixth Edition. London: J. & A. Churchill. 1882. (Students' Edition.)
- Medical and Surgical Aspects of In-Knee (Genu Valgum): its Relation to Rickets, its Prevention, and its Treatment, &c. By W. J. Little, M.D., Assisted by E. Muirhead Little, M.R.C.S. Illustrated by upwards of Fifty Figures and Diagrams. London: Longmans, Green & Co. 1882.
- The Transactions of the American Medical Association. Vol. XXXII. Philadelphia: Printed for the Association. Collins, Printer. 1881.
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ORIGINAL ARTICLES.

POISONOUS EFFECTS PRODUCED BY THE TOPICAL
USE OF IODOFORM.

By HENRY E. CLARK, M.R.C.S.,
Surgeon to the Glasgow Royal Infirmary.

IODOFORM has, during the last few years, been very extensively employed as a local application to soft chancres, sluggish ulcers, strumous joints, and burns, but until quite recently the surgeons so using it have had no suspicion that it might give rise to serious constitutional disturbance, and that in some cases even a fatal issue might ensue where its external application was long continued, or where the surface to which it was applied was capable of rapid absorption. It is, therefore, desirable that all cases in which poisonous effects are observed should be carefully recorded, in order that we may ascertain the conditions under which such effects arise, and may be able to identify the symptoms at the very earliest possible period, so as to stop the treatment and thus avert the danger. To this end I desire to place on record the details of the following case, which has recently occurred in my wards.

G. Y., a boy, aged 14, was admitted into Ward xvi, on 13th April, 1882, suffering from a sinus of the left groin, the result of a chronic abscess in front of the hip joint. The sinus extended to the inner side of the femur, and a probe introduced into it passed to the back of the lesser trochanter. On admission he was put under chloroform, the sinus was freely opened up, and was injected with 1-40 solution of carbolic acid, and pressure applied. As little progress was made, the treatment was changed during my absence from duty—the

sinus being washed out with an ethereal solution of iodoform, and bougies containing iodoform and eucalyptol ordered to be introduced, one each alternate day; these, I understand, contained about 5 grs. of iodoform each. A few days after my return, my attention was called to the boy, as he was suffering from great depression, was nauseated, and vomited everything introduced into the stomach. The vomited matters were viscid in consistence and greenish in colour. The pulse was very rapid and feeble, averaging 130 to 160 per minute, there was persistent frontal headache, and a dull mental state, which did not, however, prevent the patient answering questions rationally; there was no delirium. Dull pain in the epigastrium was complained of, and the patient was evidently losing flesh. The temperature showed a marked rise, but it was noted, from the beginning of the attack that the morning fall was greater than would be the case with any continued fever, or in other words, that the pyrexia was irregular. The following copy of the temperature card will show the marked variations which were observed:—

Date.	Morning.	Evening.	Date.	Morning.	Evening.
May 8th,	.....	102·8°	May 15th,	99·2°	101·4°
9th,	100·8°	103·4°	16th,	99·4°	102·6°
10th,	100°	101°	17th,	98·4°	100·2°
11th,	100·2°	103·8°		102·4° at 10 p.m.	
12th,	99·4°	102°	18th,	100·6°	99·2°
13th,	98·6°	100°	19th,	98·6°	99·8°
14th,	99°	103°			

After this date the temperature was normal, excepting on the evenings of the 22nd (100·2°), the 25th (101°), and the 31st (100°). The existence of abdominal pain at the outset of the attack led to the suspicion of enteric fever, but the pain was confined to the epigastrium, and there was no diarrhoea. The vomiting was too persistent, and the pyrexia too irregular for this suspicion to be long maintained.

At the time when we first suspected the iodoform to be the cause of the attack (namely on 9th May) nine bougies had been used; but although these were at once stopped and the sinus washed out with a weak solution of carbolic acid, the symptoms did not abate. This is quite accounted for by the depth of the cavity, and the fact that it had no outlet posteriorly, so that iodoform was stored up in it, and was washed out only very imperfectly. In about three weeks from the commencement of the attack the temperature returned to the normal level, the nausea passed off, and the patient began to

regain flesh. The sinus was treated by other means which it is not necessary here to specify, and is now completely closed.

Remarks.—The symptoms in the recorded cases of iodoform poisoning, although they vary considerably, have certain features in common which it is well to discriminate. Thus, in all there is pyrexia marked by extreme irregularity, the temperature running up to 104° F., or even more, and falling again very rapidly to near the normal; the rise invariably takes place in the evening, but the morning fall is nearly always out of proportion to the evening rise. Thus, in the case under notice, the temperature on the evening of the 11th May was 103.8° F., but fell the next morning to 99.4° F., to again rise the following evening to 102° . Again, on the 16th, evening, it was 102.6° , and the following morning it was normal; but again rose to 102.4° at night. The pulse is extremely rapid and feeble, its rapidity being in great measure independent of the rise of temperature—for in our case it was noted that the pulse beats were 140 per minute on the 13th, morning, when the temperature was normal. This marked effect upon the heart's action is interesting in view of Dr. Sidney Ringer's experiments with iodoform on the frog: he found that a fifth of a grain of the drug would almost arrest the action of the heart. Schede, in a paper in the *Centralblatt für Chirurgie*, refers to cases in which the pulse ran up to 180 without any rise of temperature, or any general symptoms beyond *malaise* and loss of appetite. Nausea, vomiting, and loss of appetite are invariable symptoms, the vomiting being persistent and very little relieved by treatment. In the case above detailed this symptom continued for more than a fortnight in spite of remedies, and the vomited matters were of viscid consistence and greenish colour. There is always lassitude, headache, and dulness of intellect, and often delirium, which in the worst cases passes into unconsciousness, or is followed by localised paralysis. The symptoms sometimes resemble those of acute meningitis, the patient uttering peculiar cries, rolling his eyes, and the headache being intense. Examples of such cases are referred to by Schede in the paper above mentioned, and a case under the care of Mr. Marcus Beck is given in the *Brit. Med. Jour.* for 17th June. Zeissl describes two cases in which there was an eruption on the flexor aspects of the limbs, having the appearance of erythema in the one, but in the other presenting the characters of urticaria; the eruption faded in the course of a few days after ceasing the use of the drug. In our case careful examination of the skin was made daily, but

no eruption was observed, nor did we find any change in the urine, although in some recorded cases not only has it responded to the reaction for free iodine, but albumen and epithelial tube casts have also been observed to be present. In a considerable number of instances a fatal result has ensued, but in several of these it has not been at all clear that the iodoform poisoning was really the cause of death. Mundy points out that "on minutely examining the cases of Mikulicz, Schede, König, Hoeftmann, and Czerny, it is found that many of the patients suffered from organic disturbances, only revealed by *post-mortem*, and which may have been the cause of death just as much as the iodoform." (*Lond. Med. Rec.*, May, 1882.)

It is curious that although iodoform is so freely used in a great variety of conditions, and in patients of all ages and constitutions, it so seldom happens that constitutional effects are produced, and we are led to ask what are the circumstances which predispose to the absorption into the system, and the production of general symptoms. Mundy holds that the large quantity employed is the chief factor, and speaks of cases where from $2\frac{1}{2}$ oz. to 10 oz. have been applied at one dressing; certainly in our case we could not blame ourselves for the reckless employment of the drug, as only five grains were applied each alternate day. Another point, however, to be noted is the condition of surface to which it is applied; thus, on a free surface where a great deal of the iodoform is carried into or through the dressing by the discharge, the risk of absorption will be less than in a sinus with only one external opening where the discharge is pent up and the iodoform may be retained for many days. Nor must it be forgotten that some granulating surfaces are more active than others in absorbing materials from without, healing burns being especially adapted for absorption, which may account for the number of fatalities where this drug has been employed in the treatment of burns. These considerations do not, however, account for all the cases of iodoform poisoning, nor can the plausible suggestion of a writer in the *Brit. Med. Jour.*, that the action is cumulative, and that poisonous effects are only produced after long treatment, be entertained in view of the facts detailed as to the case under our observation. We are driven, indeed, however reluctantly, to the position held by Schede, that there is a peculiar idiosyncrasy rendering certain persons liable to constitutional effects from the local use of iodoform, and that it is therefore necessary in all instances where it is used to carefully watch its effects, and cease its use whenever there is a distinct rise of temperature.

The following references may be useful to those who wish to pursue the subject further.

- Mikulicz.—*Wiener Med. Wochenschrift*, 1881, No. 23; and *Langenbeck's Archiv*, vol. xxvii, p. 196.
 Henry.—*Deutsche Med. Wochenschrift*, 1881, No. 34.
 Zeissl.—*Allgemeine Med. Zeitschrift*, 1881.
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Medical Times and Gazette, 14th January, 1882.
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American Journal of the Medical Sciences, April, 1882, p. 542.
London Medical Record, May, 1882, p. 177.
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 Hoeftmann.—*Centralblatt für Chirurgie*, 1882, ix, 97.
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IDIOPATHIC SALIVATION IN A CHILD.

By JAMES FINLAYSON, M.D.,

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SALIVATION is of very frequent occurrence in children in connection with the process of dentition: in the various forms of stomatitis also, which occur in childhood, the discharge of saliva is often very profuse. Salivation from mercury used to be regarded as scarcely liable to be produced in young children, but this medicine may give rise to its usual effect in them also. Apart from such causes salivation in childhood is certainly rare. Even in adults, the occurrence of salivation, apart from the influence of medicines or of inflammatory affections of the mouth and throat, must be regarded as an uncommon symptom, although in certain paralytic affections involving the lips, there may be much dribbling of saliva, and possibly even an increased secretion of fluid in certain cases. One of the most interesting forms of salivation is that due to pregnancy, where the symptom may be regarded as of nervous origin; and amongst other features common to the symptomatology of

pregnancy and Addison's disease, salivation may be mentioned as a rare complication of the latter. (See Meissner, Case 14, *Schmidt's Jahrb.*, Bd. 126.)

In the following case the co-existence of a pain in the epigastric region led at first to the opinion that the salivation might be due to some form of abdominal disease, and as disease of the pancreas has been supposed—apparently mainly on theoretical grounds—to give rise to salivation, very careful and repeated examinations of the abdomen were made in order to detect any tumour in this situation, but nothing of the kind could be discovered. The motions were also repeatedly examined, but nothing unusual was detected in them. The child had not been getting any medicines of any kind before admission, indeed, she did not seem to have been requiring any. Baffled in every direction, the unsatisfactory diagnosis of "idiopathic salivation" had to be made.

The girl was six years old: she had 20 teeth: her previous illnesses had included measles and whooping cough some time ago, and when two years old she had had an obscure illness characterised by crossness and disturbed sleep, ascribed to worms although none were seen. Since then she had been strong and healthy: she was bright and intelligent, and had been at school since the end of last summer. At times, of late, she had pains in the belly, and even occasionally slight sickness and diarrhoea, but the mother ascribed these attacks to some error in diet: the pain in the belly was sometimes severe enough to make her cry, and its duration was roughly estimated as being about half-an-hour. The family history seemed very good, only one having died, out of seven brothers and sisters, from some affection of the bowels.

From the beginning of February it was noticed that much water came from her mouth, so that on returning from school her clothes in front were all wet, so much so indeed, that she had soon to be taken from the school on that account; it appeared as if the salivation had been gradually getting worse. On admission on 25th February, she was found to be spitting every few minutes, bringing out about a teaspoonful of saliva at a time, and on giving her a dish this discharge was found to measure about 30 oz. in the 24 hours; but in addition to this, all her clothes were found quite wet in the morning when she was dressed. The exact figures of the measurement varied from 28 to 34 oz. The fluid brought up seemed to be thin saliva, but quite tenacious; its sp. gr. was 1003. No redness existed in the gums or cheeks: there were no unhealthy patches visible anywhere, and there was no swelling or tenderness of

the glands in the neck or cheeks, and there was no affection of the ears. The fluid seemed to come chiefly from the sublingual glands.

On admission she was, after a day or two, put under treatment by belladonna, beginning with gr. $\frac{1}{4}$ of the extract three times in the day, gradually increased to gr. $\frac{3}{4}$ as often. The ordinary diet was ordered. After about a fortnight's residence a diminution in the quantity of saliva was noticed, and this gradually became more and more pronounced, both as judged by the quantity in her spittoon and by the wetness of her clothes in the morning. By the middle of March the profuse salivation had nearly ceased, and she was dismissed well on 24th March. Seen a week later there had been no return of the affection. The child's appearance was also improved, although she could not be said to look ill even at the height of the salivation. During her stay she had only one or two slight attacks of pain in the abdomen at the beginning, and only once a little vomiting due, it was supposed, to eating some sweetmeats. The temperature in the axilla was normal.

The improvement in this case coincided so clearly in point of time with the carrying out of the belladonna treatment that I was distinctly inclined to accord this remedy the credit of the cure.

There is a short account of idiopathic salivation in children in *Gerhardt's Handbuch der Kinderkrankheiten*, Bd. iv, Abth. ii, S. 13.

SANITARY LEGISLATION AND THE DUTIES OF THE MEDICAL PROFESSION IN RELATION TO THE PUBLIC HEALTH.

HEALTH LECTURE No. 2.

(Delivered 13th May, 1882.)

By EBEN. DUNCAN, M.D.,

Lecturer on Forensic Medicine and Public Health, Western Medical
School, Glasgow.

GENTLEMEN,—In my last lecture I described to you the origin and progress of sanitary legislation in Great Britain, and the nature of the administrative bodies by which the sanitary laws are to be carried into effect. I pointed out that the

recent public health Acts of England and Scotland are very comprehensive, and if their provisions were properly carried into effect, great benefits would accrue to the health and happiness of the people of this country. Yet by the inefficiency, the ignorance, and the consequent carelessness of the local health authorities, the incompetence of the central health authority, and also partly on account of the fact that many of the medical men who are appointed to fill the position of health officers to these bodies have had no previous training in sanitary science, and are therefore often blind guides of the blind in sanitary matters, owing to all these defects of administration the Public Health Act is in many places a dead letter. It is only in the large towns that the pressing necessities of a crowded population, and the revelations of the various government enquiries, compel the authorities to attend to such sanitary reforms as do not interfere too much with the pecuniary interests of the local magnates. Even here the strong arm of a competent central health board is needed to insist on the removal of forms of nuisance arising from factories and chemical works, which pollute the atmosphere and render city life dangerous to the health and vigour of the Anglo-Saxon race. To-day I have to give you a short account of the beneficent results of the sanitary measures of the past forty years, and to point out the great and increasing responsibilities of the medical profession with regard to these matters.

In order to compare accurately the prevalence of disease in the present day with its prevalence in past times, it is necessary—1st, to know the number of the inhabitants of a country; 2nd, to have an accurate record of the nature of the fatal diseases which prevailed in a given time; and 3rdly, to have an accurate record of the number of deaths from these diseases. "Loose phrases will not take the place of numerical formulæ." When Sydenham tells us of small-pox that it prevailed a little in 1661, that in the years 1667-9 the small-pox was more prevalent in town for the first two years of this constitution than ever he remembers it to have been; or again in 1670-72, when he tells us that small-pox arose, yielded to dysentery, returned, that it prevailed a little at one time, that it raged with violence at another, these terms do not convey to our mind any definite meaning which will enable us to compare the epidemics of small-pox in Sydenham's time with epidemics of the present day. In order to gain any accurate information which will enable us to compare periods, we must come down to recent times.

Before the beginning of this century it was not possible to form any trustworthy estimate of the number of the inhabitants of the country. No proposal was ever made to take a census of the population until the middle of last century; and the proposal, when made by Mr. Thomas Potter in 1753, was looked upon with great alarm, and opposed with the greatest virulence. One of its opponents in the House of Commons declared that he did not think there was any set of men, or indeed any individual of the human species, so abandoned as to make the proposal. The people generally looked on the proposal as ominous, and feared lest some public misfortune or an epidemical distemper should follow the numbering. After fifty years of discussion the first census of the people was taken on the 10th of March, 1801; but the machinery for registration of deaths was so ineffective that we do not get any accurate account of the annual mortality of the nation, or of the causes of death, until the revision of the poor law districts in 1834, and the improved system of registration which accompanied that revision, to which I referred in my last lecture, rendered possible the new department of the Registrar-General's, which was created in 1836. In this way the new census law, which its opponents declared was to be totally subversive of the last remains of English liberty, which was to be an engine of rapacity and oppression, and which was to bring misfortune and epidemical distemper in its train, actually became, in the office of Dr. Farr, one of the most powerful means of exposing the insanitary conditions of the crowded centres of population, and of leading up to the great sanitary reforms of the last forty years. In the office of the Registrar-General, to use the words of Professor Gairdner, "Dr. William Farr has done for the vital statistics of England almost what Harvey did for physiology, or Lavoisier for chemistry. He found the facts of this science in a state of almost hopeless and aimless confusion. He has not only added immensely to the number and value of these facts, but has brought into them light, harmony, order, and for the first time in the history of the science, a determinate method, and an approach to scientific exactness. On the basis of millions of separate details, arranged, on the whole, in a very close and accurate accordance with medical opinion, and with the demands of sanitary science, it has been the great and enduring merit of Dr. Farr (originally a modest country practitioner and licentiate of the Company of Apothecaries) to build up a body of doctrine on vital statistics, not only unequalled, but unapproached [in any other country. By the systematic

calculation of death rates he has placed an easy and useful method at the service of all enquirers into public health—a method certainly not without risk of error in its application, but giving facilities for the elucidation of truth, and the correction of error, which render it of the utmost value to medical science. By the formation of life tables from these data, Dr. Farr has also immensely aided the operation of life insurance; and, by the vast extent of his general information, the vigour of his literary style, and the genial current of his human sympathies, he has been able to invest his dry and abstract inquiries with not a little even of a popular, almost of a poetic interest.”

In his First Annual Report, published in the form of a letter to the Registrar-General, he explains the benefits which will accrue to medical science from the registration of disease and of mortality, and the utility of a sanitary map of the country. He then analyses the causes of death, gives details of the system of statistical nosology which he means to adopt, and then goes on to exhibit, in a tabular form, the comparative mortality of town and country, and the classes of disease which produce the excessive mortality of the crowded centres of population. In this very report of 1832, the great law that mortality increases in exact proportion to the increase in density of the population is first enunciated and established by abundant proof. In explanation of this law, Dr. Farr makes the following remarks:—

“The occupations of the cities are not more laborious than agriculture, and the great mass of the town population have constant exercise and employment, their wages are higher and their dwellings as good, their clothing as warm and their food certainly as substantial as that of the agricultural labourer. The Poor Law Inquiry and successive Parliamentary Committees have shown that the families of agricultural labourers subsist upon a minimum of animal food, and an inadequate supply of bread and potatoes. The source of the higher mortality in cities is therefore in the insalubrity of the atmosphere. Every human being expires about 666 cubic feet of gas daily, which, if collected in a receiver, would destroy other animals, and is constantly producing, in a variety of ways, the decomposition of animal and vegetable matter, yielding poisonous emanations in houses, workshops, dirty streets, and bad sewers. The smoke of fires and the products of combustion are also poisonous. All gases and effluvia, like odours, are diffusible; they have a certain force of diffusion which Professor Graham has expressed numeri-

cally; and all the emanations from human habitations in the open country mingle, almost as soon as they escape, in the currents of the atmosphere. But locate, instead of one individual to the square mile (the supposed density of the population in the uncultivated forests of America and the steppes of Asia), 200,000 individuals upon a square mile, as soldiers in a camp, and the poison will be concentrated 200,000 fold; intersect the space in every direction by 10,000 high walls which overhang the narrow streets, shut out the sunlight, and intercept the movements of the atmosphere; let the rejected vegetables, the offal of slaughtered animals, the filth produced in every way, decay in the houses and courts, or stagnate in the wet streets; bury the dead in the midst of the living, and the atmosphere will be an active poison, which will destroy, as it did in London formerly, and as it does in Constantinople now, 5-7 per cent of the inhabitants annually, and generate, when the temperature is high, recurring plagues, in which a fourth part of the entire population will perish. But the health will be little more impaired by residence upon 1 than upon 100 square miles, if means can be devised for supplying the 200,000 individuals with 200,000,000 cubic feet of pure air daily, and for removing the principal sources of poisonous exhalations. The latter object is partly accomplished by paved even streets, by the scavenger, by an abundant supply of water, by large well constructed trapped sewers, and by domestic habits of cleanliness; but it is difficult to perceive how volatile impurities can be removed, and how a stream of uncontaminated air can be supplied where the sun cannot heat the earth and air, where there are no open squares, or the streets are narrow, or the houses are only separated by courts, or built in *cul de sac*. . . . The necessary deduction from the double series of facts then is that the mortality has a tendency to increase as the density of the population increases, but that the unhealthful tendency can be counteracted by artificial agencies."

You will see, from what I have said of the want of accurate returns as to population and death-rate, that the statistics which can be adduced as to the death-rate of the nation before 1839 are mere guesses, and have little scientific value, so that we cannot compare the mortality of the pre-sanitary period with the period of active sanitation. Nevertheless, glimpses of the conditions of city life in England in the seventeenth and eighteenth centuries are found in the Mortality Bills of the city of London, the population of which at these dates was well known. In the latter half of the seventeenth cen-

tury the annual mortality of London was at the rate of 80 per 1,000. In the eighteenth century, this terrible mortality was reduced to 50 per 1,000. When Dr. Farr published his first annual report, it was 28 per 1,000. Now it is reduced to something like 23 per 1,000. These, and other facts which might be adduced, make it quite as certain that the death-rate can be reduced by hygienic appliances as it is that human life can be sacrificed by causes which are visible, and can be controlled.

Let us now consider the effect which statistics show that recent sanitary measures would appear to have had upon the public health. I show you here a table which I extract from last year's report of the Local Government Board, which is the central health authority of England.

ENGLAND AND WALES.

Annual Death-rate per 1,000.	1841-50	1851-60	1861-70	1871-80
All Causes,	22·4	22·2	22·5	21·5
Seven Zymotic Diseases, . . . . .	.....	4·11	4·14	3·36
Fever, . . . . .	.....	0·91	0·88	0·49

I take the case of England in preference to Scotland, because, in the first place, the population is so much larger; and in the second place, the preliminary report on the census of 1881 has just been published, and I wish to illustrate this point by an appeal to some tables which I find there. Upon this table the President of the Board makes the following remarks:—

“From the above figures, it will be seen that, speaking generally, the death-rate of the country remained stationary from 1840 to 1870, but that in the period 1871-80, it fell from 22·5 (of the previous decade) to 21·5, a reduction equivalent to nearly $4\frac{1}{2}$ per cent. It may therefore be roughly estimated that about a quarter of a million of persons were saved from death in the ten years 1871-80, who would have died if the death-rate had been the same as in the previous thirty years. If 12 cases of serious but non-fatal illness be reckoned for every death, it follows that about three million persons, or over one-ninth of the whole population, have been saved from a sick bed by some influences at work in the past decade, which had not been in operation previously. The case, indeed, is still

stronger than this. The death-rate of rural districts is habitually lower than that of urban districts, and as the population is steadily concentrating itself more and more into the towns, the death-rate of the whole country would tend to increase, if the other circumstances affecting it remained the same. When we find that this tendency has been so much more than merely counteracted, it becomes interesting to see where the gain has been, and to endeavour to trace some of the causes to which it may be due.

"Comparing, then, 1861-70 with 1871-80, it will be seen from the foregoing figures that of the entire reduction of 1·0 in the death-rate, more than three quarters ($4\cdot14 - 3\cdot36 = 0\cdot78$) comes under the head of 'The Seven Zymotic Diseases'—of the diseases, that is, which are most influenced by sanitary improvements, and most amenable to control by the action of sanitary authorities. And of this three quarters, just half ($0\cdot88 - 0\cdot49 = 0\cdot39$), or three-eighths of the entire reduction, is in "Fever," the disease which, more than any other, shows itself in connection with such faults of drainage, of water supply, and of filth accumulation, as it is within the province of good sanitary administration to remove.

"It is particularly significant that, since the year 1870, when the fever death-rate was 0·80 per 1,000, it has fallen pretty steadily, year and year, down to 0·32 in 1880."

That the population is steadily gravitating towards the large towns is proven by this table, extracted from this document, which shows the steady and rapid increase of the urban as contrasted with the rural population of England.

PRELIMINARY CENSUS REPORT, 1881.—ENGLAND & WALES.

	1861.	1871.	1881.
Urban Population,	12,501,461	14,713,316	17,285,026
Percentage of Total Population,	62·3	64·8	66·6
Rural Population,	7,564,763	7,998,950	8,683,260
Percentage of Total Population,	37·7	35·2	33·4

The manner in which a beautiful, romantic, and healthy country district is transformed into an unwholesome manufacturing or mining village, is well illustrated by the case of

Ulverston, where the discovery of an iron ore doubled the population in a short time. The mortality which, for the ten years preceding the discovery of this iron ore, had not exceeded 18 per 1,000 annually, rose in the district of Dalton, where the iron workers congregated, to from 30 to 40 per 1,000 in 1864. The Registrar-General remarks—"It is in this sub-district (Dalton) that the spectacle is presented of work plentiful, wages good, provisions cheap, and the prevalence of destructive epidemics. . . . Our industrial armies are cut down by the camp diseases which are generated by the inadequate house accommodation, and by the want of sanitary arrangements, which are never carried out in the neighbourhood of new works."

This illustrates remarkably well what is being enacted every day in the country districts of Great Britain, and for which the careless and ignorant local health authorities are responsible. A serious question arises as to whether much of the improvement in the death-rate of the last decade does not really arise from the depression of the manufacturing industries of the country. What might be effected by proper sanitation is shown by the mortality tables of such communities as Glasgow, which prove that, although owing to the constant increase of the manufacturing and mining population at the expense of the agriculturists, and to other causes which I have mentioned, the death-rate of the country generally has not been very greatly diminished, the death-rate of those individual communities which have paid most attention to health matters has been diminished to a much greater extent.

To pass from these general particulars to a special form of disease and a particular community. To illustrate the effects of sanitary measures from this point of view, I shall take the history of typhus fever in Glasgow in my own time. It is now twenty years since I began my medical studies in the old college in High Street, and for some years, as a student, I had an opportunity of witnessing the terrible results of the overcrowding, the squalor, and the misery of the wynds and closes of old Glasgow. Professor Gairdner had just come to Glasgow fresh from the delivery of his interesting course of Lectures on Public Health in Relation to Air and Water in Edinburgh. Owing to the reputation as a sanitarian which he had already acquired, he was appointed health officer to the Board of Police, and in that capacity he did great service to the cause of sanitation in this city. In my last lecture I read you an extract from Dr. Neil Arnott's report on the

causation of fever in Glasgow in 1840. I shall now read you an extract from Dr. Gairdner's report to the Board of Police in 1863, shewing that very little improvement had been made on the dwellings of the labouring classes in the twenty years which had elapsed since Dr. Arnott wrote his letter to the Poor Law Commissioners:—

“In Nos. 70 and 80 Bridgegate I found a large mass of property in an extremely dangerous state, and containing fever and small-pox. Many or most of the rooms were below the statutory minimum of 700 cubic feet, and yet were tenanted by more or less numerous families. In one room of less than 600 cubic feet (about 9 feet \times 8 \times 7) I found a father, mother, and four children—the baby having recently taken small-pox. In another room of less than 300 cubic feet (about 6½ feet in length, breadth, and height) were two full grown girls, who probably might not have been indisposed to take in lodgers, notwithstanding their restricted accommodation.” Then, referring to the Saltmarket and Gallowgate, he says that in some places the houses have been built so that free access of light and air is nearly impossible, and he gives the details of the following case in No. 103 Gallowgate:—“There were last spring five persons affected with fever in a room sunk below the level of the close, without a window of any kind, and damp, dark, and noisome in the highest degree. In this room, however, an old woman had lived for twenty years. It has now been converted into a very wretched stable, and the neighbours seem decidedly to prefer the nuisance to that of a family of five with fever. ‘Better even a horse,’ they say, ‘than a bad neighbour.’” The last quotation I shall make from this interesting report refers to Coalhill Street, Camlachie. “In 47 Coalhill Street I found a room of 800 cubic feet tenanted by four adults and five children, being at the rate of less than 100 cubic feet for each person, and the means of ventilation being defective in the extreme. In the court there is a very large open dungstead, close to the houses, and the paving being very bad, there is constant soakage in rainy weather. Next door there is a milk shop in a nearly equally bad sanitary condition, and it requires no great stretch of imagination to conceive of milk saturated with fever poison being dispensed from this dangerous locality.” Under these circumstances we need not be surprised to learn that the number of fever cases among the inhabitants was very large; and as it became a fashionable lodging locality for Irish labourers, it was rapidly converted into a series of plague spots, which could hardly be made safe by any means short of demolition. And that was

in fact the remedy to which the city authorities were ultimately driven by epidemic after epidemic of fever, which could not be stamped out while these plague spots remained.

The experiences of a medical student who was under the necessity of visiting the people who lived in such circumstances were not agreeable. As a student of the Lying-in Hospital, I remember well visiting a family in a room which was partially underground, and in which there resided a family consisting of a father, a mother, several children, a donkey, and a flock of hens; one end of the place was used as a coal ree, and in the other end of the hovel, partially boarded off from the public gaze, lay the mother in the pangs of labour. But the discomforts of attending these people was nothing compared with the danger to which we were subjected by the constant outbreaks of malignant typhus in these wretched dens, and in the overcrowded and badly ventilated hospitals of these days. In looking back, I can count up no fewer than ten of my fellow-students who died of this disease alone, either during their student life or in the early years of practice. It was a rare exception when a young practitioner, who began practice in Glasgow before the operations of the City Improvement Trust rooted out these fever dens, escaped typhus. As an example of the kind of danger to which he was exposed, I may mention that, shortly after I began practice, I was called to see a whole family, consisting of father, mother, and four children, all lying at one time with typhus fever, in a single room in Bolton Street. There was no attempt at ventilation of the apartment, and I had to conduct my examination of the father and two of the children in a closet bed in the wall of the apartment. Such conditions were quite common before the renovation of the wynds and closes and the supervision of the Sanitary Office, carried out as it now is under the care of Dr. Russell, assisted by a competent staff of trained inspectors, who are constantly giving valuable advice to the people as to cleanliness and ventilation, who keep a sharp look out on all removable nuisances, and transport to the City Hospital the comparatively rare cases of typhus or small-pox, which still occur sporadically as importations from less carefully guarded places. The medical profession of Glasgow owe a debt of gratitude to the labours of the men who have so completely relieved them of constant, dangerous, and unremunerative attendance upon typhus fever, that a man may now practise medicine in Glasgow for years without seeing a single case of the disease; and by the improved hygienic arrangements of

our fever hospital, a student or practitioner may attend its wards or become an inmate as clinical assistant almost with impunity. In Edinburgh the former condition of matters with regard to typhus fever and the results of recent sanitation are equally remarkable. Dr. de Chaumont, in his *Lectures on State Medicine*, states that, when he was a student in Edinburgh, a man who was a clinical clerk or a dispensary student for more than six months might pretty well lay his account to getting an attack of typhus, and now-a-days, owing to the demolition of the old, overcrowded, dirty parts of the city and the improvement of the sanitary condition of the remainder, it is hard to get a case to lecture upon.

Before concluding this lecture I wish to say a few words with regard to the duties and responsibilities of those members of the medical profession who are not officially connected with the care of the public health—the 18,000 medical practitioners who are intrusted with the care of the population in sickness.

There are certain great leading facts with regard to the causation of classes of disease which have been arrived at by empirical methods. The great broad highways by which these groups of disease travel have been long known; and the more obvious principles of sanitation were just as well known in ancient times as they now are. To arrive at such facts as hereditary transmission, contagion by personal contact, and the dangers of accumulating filth in human dwellings, required no scientific training on the part of the observer. It is only when we come to the investigation of the causes of particular species of disease, and of the numerous bye paths by which these diseases travel, that we must have the enquiry conducted by scientific men, trained in modern methods of precision, and having a special knowledge of the modern physiological and pathological sciences. One of the greatest aids to sanitary progress is the differentiation of diseased conditions from one another. For example, so long as typhoid and typhus fever were looked upon as one disease, no complete and satisfactory account could be given as to their causation. An advance in pathology, and a subsequent advance in symptomatology, have enabled us to distinguish these two forms of disease with absolute certainty, and now, as a result of this one medical discovery, a fresh flood of light has been shed on the causation of these diseases, and of the means by which they are propagated. I believe, as a result of this discovery, we are already within sight of the abolition of typhus, and we may look forward to the day when typhoid

fever in epidemic form will be a recollection of the past. Working side by side with the medical investigator in the cause of sanitation we have the chemists and microscopists, represented by such men as Pasteur in France and Tyndall in England, and we have the comparatively new profession of sanitary engineers. These men have done great services in the cause of sanitary science, and it is necessary for us to be acquainted with the side lights which these enquirers throw upon the propagation of disease; but, after all, in the future every solid advance must come from the careful and organised labours of the individual practitioners of medicine. It has frequently been observed that it is not the hospital physician or the city practitioner who has done most for the advancement of preventive medicine, although there are a few notable exceptions. It is really the country doctor, in isolated localities, who is best situated for observing the beginnings of disease, and it is therefore extremely important that every medical man should be taught during his student days what to observe and how to apply his knowledge in this direction. But apart altogether from the great benefits which might accrue from such a training in the advancement of our knowledge of the etiology of disease, it is of the utmost importance that he should have proper instruction in the details of the various branches of sanitary science, which have a direct bearing upon the *treatment* of disease. The days are long past in which a doctor was acquitted of all further responsibility in relation to a patient when he had discovered, for example, a diseased lung, and written a prescription for the combination of drugs generally thought to be appropriate for such a case, or when a man was found to be bilious, and the physician prescribed an excellent remedy for the bile. Medical science has got beyond that empirical stage; but it is only now that the profession as a whole is becoming alive to the unquestionable fact, that a medical practitioner may have a good knowledge of the symptoms of disease, and of the particular remedies which are most useful in controlling these symptoms, that he may be an excellent anatomist and a skilful surgeon, and yet, that with all these qualifications, he is not completely fitted for the practice of his profession. If he has ignored hygienic studies, he may exhaust every remedy in the pharmacopœia, and expend every device of the surgeon's art, vainly endeavouring to combat evils which can only be removed by improving the hygienic surroundings of his patient. Besides all this, every private practitioner has frequently to deal with cases of infectious disease, and, at the present

moment, it depends altogether upon his knowledge and firmness whether such cases are nipped in the bud, or their contagious germs are spread from dairy and school, or by drain and watercourse, to deal misery and death to the surrounding community. It is no exaggeration to say that the health and even the life of every man, woman, and child in the nation may at some time or other be protected from or exposed to greatest danger, according to the education or non-education of the members of our profession in the principles of sanitary science. It is usually when health has been sacrificed and life lost that the skilled health officer is called in to stand between the living and the dead and to stay the plague. The government of the country found it necessary, after the disasters of the Crimean war (in which they lost two men by sickness for every one man destroyed in the casualties of battle), to found a chair of hygiene in Netley for the instruction of the army medical officers in these matters, so that the health of the British army might be properly cared for. I think it is high time that similar teaching should be provided in every medical school for the training of the men who are to be intrusted with the care of the national health. Whatever the sanitary measures enacted by parliament may be, the nation will not be properly cared for in its health interests until it is made the duty and interest of every individual practitioner of medicine to act as a health officer to his own patients. I hope by and bye that, by the growth of education and intelligence among the people of this country, and stimulated by the increasing need for attention to personal, domestic, and public hygiene in our large city populations, this reform may be effected. When every student of medicine is properly educated in such matters, and the public find that every doctor is able to give good advice in every branch of sanitary science, then, and not till then, will the practitioners of preventive medicine take their rightful place of precedence over the practitioners of the curative art. A reform which will alter the relation of the family doctor to his patients, and make him their trusted adviser in matters of personal and domestic hygiene in times of health, will do more for the prevention of disease and death than all the legislative enactments which parliament can devise. The wisdom of the Chinese practice of paying the doctor for keeping his patients in health will become daily more apparent, as the power of the doctor to do so increases with the rapid advance of sanitary science.

ON THE UNITY OF POISON IN SCARLET, TYPHOID,
AND PUERPERAL FEVERS; DIPHTHERIA, SORE
THROATS, AND CERTAIN ALLIED AILMENTS;
AND MANY OTHER AFFECTIONS HERETOFORE
USUALLY CONSIDERED TO BE SEPARATE AND
ENTIRELY DISTINCT DISEASES.

By DR. G. DE GORREQUER GRIFFITH,

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"If a man be content to begin with doubts he shall end with certainties."—BACON.

"All scientific novelties are subject to inconsiderate criticism."—PASTEUR.

SOME years since—on the occasion of the great debate on Puerperal Fever at the Obstetrical Society—I began to inquire into this question, and published some papers on it. I am greatly sensible of the number of facts and cases which I have seen and read, confirmatory of this vital truth—this great doctrine—many more than I at first anticipated could be collected. I have been induced to resume the subject because of the paper lately read at the Medical Society of London by Dr. Millican, "On Suggestions for a Modification of the Germ Theory of Disease," in which he quoted some of my reported cases, and because of the Duchess of Connaught's illness and the condition of Bagshot Park, brought under professional notice by Dr. Playfair. In connection with Dr. Millican's paper I would quote the remarks of Dr. Sansom in the course of the debate, inasmuch as they corroborate my own, made *some years ago*:—"I consider the *differences of soil* even of more importance than those of organisms in determining the nature of the specific diseases. I have long considered that there is a balance of probability in favour of the view that the specificities of diseases are rather a matter of cultivation than of morphological distinctiveness." The President, Dr. Broadbent, said that "the association of diphtheria and scarlet fever is not infrequent, and that the appearance of diphtheria might be absolutely independent of any pre-existing case."

The case brought forward by Dr. Charles Hood at the same meeting shows plainly unity of poison, differentiation of symptoms due clearly to the evolution and development of

the one poison. There were enteric fever, pain in region of spleen, phlebitis, general phlebitis, implication of pulmonary artery, evinced during life by dyspnoea and by hæmoptysis; *post-mortem* examination showed embolism (thrombosis).

In connection with the Bagshot Park case, hear what Dr. Playfair writes:—"As a matter of fact, offensive smells had long been perceived about the house, and had been a common topic of conversation, but no one had suspected their origin, or had realised the dangers they were likely to cause. *Many of the inmates* had suffered from *various forms of indisposition*, such as sore throat, diarrhoea, a general sense of malaise, conditions which did not excite much notice until serious symptoms had shown themselves." The Duchess's state, after her accouchement, directed Dr. Playfair's attention to the drains which, on examination, were found to be most defective. "I have long been satisfied," continues Dr. Playfair, "that the effects of defective sanitary condition on the puerperal state have often much to do with grave forms of illness in the lying-in state. . . . In a case I saw some years ago, the patient (puerperal) had a most intense attack of puerperal septicæmia, *but none of a diphtheritic character*, while her husband lay in an adjoining room *suffering from diphtheritic sore throat*. The waste pipe from the bath was found to communicate directly with the sewer. . . . With Dr. Parsons, of Notting Hill, I saw another similar case. Besides these, I know of three others which ended fatally, in which I have every reason to believe the cause of the disease was sewer gas." Doubt as to the cause was removed by the fact that the Duchess's removal was, as in the cases above mentioned, immediately followed by a remarkable and instructive change for the better! I need not say how strongly corroborative all the above is of unity of poison, differentiation of resulting phenomena—symptoms—a differentiation so great, that to the resulting symptoms separate and distinct names are by the profession applied, as if they were truly different diseases.

What is disease? What are diseases? By a disease, or diseases, I would take to mean a grouping of a number of symptoms into one distinct whole, such constituting a malady, separate and distinct from another grouping—separate and distinct in every way—in source of contagion, origin, in course of development, in regularity of symptoms, in conditions of blood, in results, in sequelæ, in there being no possibility of interchange and intercommunicability; in short, in the life symptoms, in the anatomical changes, and in the

post-mortem appearances, being all distinct and well marked. Now, I am sure it will occur to every reader that such distinctive lines of demarcation cannot be drawn. And here I would ask—Are the organisms—the microcosms which are found in disease—are they the *materies morbi*, or are they developed as a result of diseased action, however originated?

At the meeting of the Midland Medical Society (1st March, 1882), Dr. A. H. Carter read a paper based upon the following case of so-called ulcerative endocarditis:—A lad, aged sixteen, was admitted into the Queen's Hospital, Birmingham, on 30th January, suffering from *acute rheumatism*. Had previously been healthy. There were no complications, cardiac or otherwise. On the third day after admission, *pleurisy* supervened on the right side, and two days later on the left side also, and the patient gradually lapsed into a well marked *typhoid* state. On 15th February, for the first time, a *soft systolic murmur* was heard over the præcordia, which could not be precisely localised. Five days later he became comatose, and died. The *post-mortem* examination showed double pleurisy, small metastatic abscesses (embolic?) in both lungs, and several infarcts in both kidneys; an enlarged softened spleen, and perforated ulceration of the tricuspid valve. Now, here is an admirably marked case of unity of poison—differentiation of symptoms in one individual. 1st. Acute rheumatism in a lad previously healthy; no complications of any kind. 2nd. Pleurisy in the right side developed on the third day after admission, next on the left side, and “gradually,” as the *poison evolved*, “the patient lapsed into a well marked typhoid state.” Next is noticed “for the first time a soft systolic murmur.” I would draw marked attention to the *post-mortem* appearances, as being strongly corroborative of unity of poison, differentiation of resulting phenomena, as the poison, whatever it was—no disputation about its entity, its unity, or oneness—evolved, and in its evolutions developed, variously, its presence.

In the *Lancet* of 8th April, 1882, page 585, is a letter from Dr. W. J. Smyth, on the cause of the illness at Bagshot Park, in which he uses the following words, fully confirmatory of “unity of poison, &c. :”—“The members of a family (which had recently moved into a house) became conscious of an offensive smell in the house, and several of them got out of health, suffering from lassitude, general malaise, drain throat, &c.” . . . —all, I take it, not suffering alike—“It is probable,” he continues, “that hundreds of deaths are due to these bad drains every year . . . many diseases are

caused"—here certainly is inculcated unity of poison, differentiation of action—"many aggravated by the presence of sewer gas in our houses;" and this testimony will, I am sure, be endorsed by every medical man who has paid attention to the matter.

Premising that my readers have perused Dr. Millican's paper, I would state that "the exceptional cases" to which he refers are very much more numerous than he assumes.

In his first cited case are combined diphtheria, typhoid rose spots, petechiæ, pimples on buttocks and wrists, which, as the rose and purple spots fade, become developed into vesicles—"as if he had been vaccinated, or like cow pock"—the vesicles become pustules, and the patient lives through these various evolutions or expressions of a blood poison. Surely the symptoms are not merely simulative, but being exactly the same as we find in typhoid, in diphtheria, typhus, small-pox—where these so-called diseases attack different persons—surely the symptoms are not merely simulative, but are actually those of the diseases named above? and therefore show that the poison in the blood, whatever it was, demonstrated itself by those outward and visible signs of the inward morbid workings which would lead us to say all those several diseases, to use current phraseology, existed at one and the same time in the same person. And especial interest groups round this case, because of "the impossibility of tracing direct contagion of any infectious disease," and because to Dr. Millican's certain knowledge there had been no other case of infectious disease previously in the neighbourhood. "Dr. Wilson, the medical officer of health, who saw the case *in the very early stage*, considered the only source of contagion was a purely local one, and dwelt upon first, a habit of drinking out of wayside pools; second, the deposit of excremental matter from closet pails at the bottom of the garden; and third, the presence of an old cesspool into which the drains conveying slops emptied, and which received the drainage of the privies previous to their conversion into pail closets." "Milk and water agency was quite cleared." This I consider an admirably illustrative case of "unity of poison," occasioning *apparently* four distinct diseases, *the evolutions of that one materies*, which manifested its workings in such a variety of ways as to lead to the conclusion that four diseases, orthodoxically considered to be widely apart in every way, were developed in the same individual at the same period of illness.

Dr. Millican says:—"The problem thus presented for solution is the apparent *de novo* origin of disease, resembling in

some of its characteristics four commonly supposed distinct specific diseases."

In one orphanage to which I was called some time since, a girl sickened: she complained of sore throat and was a little feverish. She got well: there was nothing of a so-called specific character. While she was getting well another girl fell ill of unmistakable scarlatina: the first began again to complain—scarlatina declared itself without a doubt. Another child was taken ill with diphtheria in combination with scarlatina; others had simply sore throat, or the same with general malaise, or the malaise without the throat affection; or some bowel irritation. All recovered but one, the last taken ill, and she had fully declared typhoid. She was sent to the hospital where the diagnosis—typhoid—was confirmed. The children and attendants who were taken ill, became so either simultaneously or within a few days of each other, though to every possible means of isolation and disinfection recourse was had. Investigation showed leaky W.C. pipe through the wall of the house, the children having been in no way exposed to any of the affections which demonstrated themselves in their midst.

Under head of "Arguments, &c.," Dr. Millican quotes "the evidence from parentage—like produces like." The case of the orphanage above quoted is at variance with such hypothesis, as are also the researches of Dr. Burdon Saunderson. And if you take a case of scarlet fever—what I term "orthodox," to distinguish it from "toxæmic scarlatina"—and place it in a household where the mother is "lying-in," she may have orthodox scarlet fever, or else what is called puerperal fever; her new born infant may be attacked with erysipelas, or ophthalmia neonatorum, or convulsions, &c.; her other children with scarlet fever or sore throats; her husband with typhoid perhaps, or erysipelas, or sore throat; the nurse, diarrhoea, sickness, and headache, or whitlows; and other attendants and servants nothing more than general malaise. Every medical man can recall such cases occurring in his practice. Like *not* producing like! Moreover, has it not been found that even the microcosms detected in the blood of those infected with any so-called distinct or specific disease *alter, if the pabulum which they require for their sustenance is not present in the blood of the animal or person to which they may be transferred?*

In favour of unity of poison and differentiation of resulting symptoms, Dr. Millican says "there may be stated three classes of cases—(a) where disease of one type appears to (I should

say does) reproduce disease of another type; (b) where two or more distinct diseases appear to (do) result from a common cause; (c) cases of indeterminate type.

I would not say two or more separate and distinct diseases are produced, but evolutions of the poison take place, resulting in different—not diseases—but symptoms of the evolutions.

I will now give a *résumé* of Dr. Braxton Hicks' letter in reference to Dr. Playfair's, to which latter I have referred previously:—"As far as I have discussed the question with my brethren, they have pretty generally understood that bad drainage stood foremost among the evil influences, either indirectly as a producer of zymotic diseases, or directly as an irritator (originator I take it to mean) of septic changes and ALL the immediate and secondary phenomena resulting." Surely this is—but in words different to mine, yet how affirmative and confirmatory—unity of poison, differentiation of diseases resulting from the one *origo mali*!

The italics are mine—"It is easy to understand," continues Dr. Hicks, "that imperfect drainage, close rooms, and bad dwellings, would be sufficient, by continued action, to produce such a state of constitution as would tend to *effusions, suppurations, pyæmia, and peritonitis*. . . . The inmates of new houses are more likely to be attacked by scarlet fever, typhoid, diphtheria, &c., &c., and this may be well accounted for by the fact that the drains of new houses are more liable to be deficient."

In a letter to me Dr. Braxton Hicks says:—"Scarlet fever and typhoid *co-mixed* was seen by my son in a Northampton village." As this closely resembles a case I published some years ago, I may be allowed to briefly quote the latter:—"Some time ago I had, in consultation with Dr. Joliffe, of Shepherd's Bush, a case of typhoid fever in which relapse occurred while convalescence was advancing, and desquamation—as truly marked as in what would be termed a typical case of scarlatina—was actually taking place. In the same house where lay this sick mother, the younger members of the family had *previously* been affected with scarlatina, others having suffered from what is termed "sore throat," while others again were, at the time of the mother's being ill, complaining of the same; the cause of *all the varied* symptoms being, as far as could be discovered, the defective drains, which allowed regurgitation into the house of noisome smells and vapours."

Now, I would make some remarks on the "Memorandum

on Acute Pneumonia" of the Collective Investigation Committee.

The recognition of the value of the "unity" question is embodied in the opening words of the Committee:—"Such an investigation might reasonably be expected to be of service in the promotion of particular measures of prophylaxis, and probably also in the establishment of rational therapeutics." "In scientific medicine a theory means a basis for a line of treatment, which latter must be wrong if the theory on which it is based be erroneous." (Army Surgeon A. M. Kavanagh, *Lancet*, 8th April, 1882, page 586.) I shall hereafter show the applicability of these words in reference to pneumonia.

From my researches into the "unity question," I can fully endorse this sentiment of the Committee:—"that pneumonia from *infection* does exist possibly (I would say certainly) to a far greater extent than is admitted, seems likely, not only from the records that appear from time to time upon 'epidemic' and upon 'contagious' pneumonia, but also from the well attested facts of the ordinary course of the disease. . . . It not uncommonly happens, in an ordinary case of basic pneumonia, that the fever subsides rapidly (by crisis) some days before the local signs indicate a corresponding improvement in the damaged organ. These are but two examples out of several which might be quoted, as affording *prima facie* support to the view that, *in the disease we call* "pneumonia" there is something over and above the mere addition of an inflamed lung; some influence, call it septic, or what not, which, attacking the whole organism, has its local and manifest expression in pulmonary inflammation. "Have we," (I would say we have) "Have we, in a word, in the inflamed lung a condition related to some underlying influence (at present unknown) in a manner analogous to the bowel affection characterising typhoid fever; or cutaneous inflammation of facial erysipelas; or, on the other hand, is pneumonia simply a local disease, solely due to 'exposure,' like catarrhal affections?"

The eyes of the Committee are directed rightly when they invite the information—1st, "Whether the pneumonic patient's occupation be one exposing him to * *unsanitary* or to *miasmatic* influences," as I am convinced both tend to the production of pneumonia, as the poison evolutes and develops in the system. And 2nd, "Whether there are other cases of pneumonia in the patient's house, or in the surrounding district?"

* From which sources are developed at home and abroad how many so-called different disease!

"Whether an outbreak of pneumonia be generally prevalent; whether, in fact, there be "epidemic pneumonia?" "It is also of great importance to learn whether, at the time of the prevalence of pneumonia, there be *concurrently* an undue prevalence of the *specific fevers*—e.g., typhoid, scarlatina, diphtheria, erysipelas, &c., as it may happen that *conditions liable to produce such diseases* IN SOME INDIVIDUALS *may favour pneumonia* IN OTHERS.

It will, I am sure, be found that the one poison which produces the "diseases" referred to *will* give rise to pneumonia. But the foregoing inquiry can hardly be made a distinct one *per se*, and apart from "examples of pneumonia occurring as a complication in the course of a specific fever," inasmuch as what the committee imply to be two distinct diseases are really one and the same, only different manifestations of the evolution of the same *origo mali*, the pneumonia not being at all a "complication," but an expression of differentiation, a variation of symptoms evolving from a one poison. "Where, as sometimes happens, pneumonia occurs in the *initial* stage of a specific fever—notably typhoid—such should be recorded." But pneumonia, whether in the initial or any other stage, is only a unit of expression of many differentiations at one time, or in one patient determined and manifested earlier in the evolutions, than at and in another. Nor can atmospheric influences be wholly excluded, as *they* must form an important part in *determining*, or *guiding* in its evolutions the *force of the poison* to the lungs, and in occasioning the pneumonia which, in more salubrious weather, would not be developed.

Who can say but that the atmospheric influences, by working chemico-physiological changes in the persons placed within their range, generate *de novo* in the body the poison which, in a variety of people, demonstrates its presence by such a variety of action, as to have led to the doctrine that these several demonstrations are wholly separate and distinct diseases, so that "meteorological" become, or are, as really "septic conditions," as those which are generally accepted as such? And may not this meteorologic sepsis be as potent as any other hitherto recognised sepsis, and produce differentiation of symptoms, which are the manifestations of its workings, being all the while itself an entity—a unity (of poison)?

Till comparatively recently, it was not considered that pneumonia could arise from "insanitary conditions." The very inquiry of the Committee is in favour of such a source. And this would bring the ailment under the same head—at

least as regards origin—as typhoid, scarlatina, puerperal fever, diphtheria, sore throats, diarrhoea, &c., &c.

I will here quote the words of the Committee, so as to have them on record in this paper:—"Next on the list comes the important subject of the sanitary conditions, which, if carefully enquired into, may throw much light upon many an 'epidemic' of pneumonia. It may be discovered, for instance, that when several members of a household have been in succession struck down by the disease (not at the time generally prevalent in the district), the house itself is in an insanitary state, and that *its inmates have been poisoned by sewer gas, or other noxious effluvia*. Or, again, the practitioner, meeting with an unusually large number of cases in his district, may find that *the drainage is generally defective*."

The malarial pneumonia of the East will, in connection with the foregoing paragraph, at once arise to the reader's mind.

Dr. J. W. Moore, in a discussion at the King and Queen's College of Physicians, Ireland, 1st February, 1882, said "that the outcome of the case (acute pneumonia) from a clinical standpoint was, that it afforded *another proof that pneumonia is an essential continued fever* manifesting itself in connection with the lungs, only after the * lapse of a certain period of invasion.* In fact, the lesion of the lungs was analogous to the condition of the skin in the exanthemata or eruptive fevers."

In a letter to me, the same gentleman says—"There can be little question, in my opinion, that pneumonia is in many cases *only a local manifestation of an essential fever, a fever which often arises from sewer gas poisoning, and under circumstances similar to those noticed in connection with the origin of typhoid*. I am also satisfied as to the *close relationship which exists between erysipelas and scarlet fever* AS TO THEIR *ÆTIOLOGY*, and with Murchison, I believe (as I also do) in the *de novo* origin of typhoid and typhus." Dr. Moore does not, however, agree with me in "unity of poison, &c."

In connection I would adduce the cases of pneumonia from malaria, while from the very same malarial exposure other persons are attacked with ague, or with typhoid and ague combined (typho-malarial), or with dysentery, diarrhoea, cholera, or with hepatic diseases, or other, so-called, different affections, such as are to be met with in the East, and to

* In which the poison, which at the very first set up the diseased action, was evolving, undergoing in the person of the patient more or less extensive developments of progress and change.

which Sir J. Fayrer has referred in his recent lectures—lectures in which unity of poison, differentiation of resulting phenomena, is clearly shown—though I am not aware that that great physician coincides with my doctrine. In a letter to me, Sir J. Fayrer says:—"If you and I live long enough, we shall find some of the present views of the nature of the causation of fevers, &c. will be much modified."

In looking over Sir J. Fayrer's paper on "Liver Abscess and Antiseptic Paracentesis," vol. v, *Med. Society's Proceedings*, page 140, I find this sentence:—"I am inclined to regard them (liver abscess and dysentery) as *independent*, though often co-existent and *due to the same climatic causes!*" And may not the yellow fever of the West Indies be but a ring in the chain of unity and differentiation—malarial in origin, and altered in character because of alteration of habitat—country, &c.? In Tanner's *Clinical Medicine*, 3rd edition, revised by Fox, chap. iv, page 66, occur these words under head of "Various circumstances which modify disease:"—"The same disease in one individual often assumes a different character in another. How often do we see *many people differently circumstanced* exposed to the *same* morbid agency with a *varied* result. Thus, of half-a-dozen persons exposed to the same noxious influence, say that of wet and cold, one will have rheumatism, another influenza, a third catarrh, a fourth ophthalmia, and so on." Surely here is unity of poison and differentiation of its manifestations—symptoms! Yet I am not aware that either Dr. Tanner or Dr. Tilbury Fox even entertained the doctrine. I could multiply many times over such cases as Dr. Tanner cites, and so could every medical man. The researches, I take it, of Dr. Burdon Saunderson, of Braidwood and Vacher, of Pasteur, of Dr. John Harley, and many others, do not negative this doctrine, but rather confirm it.

Dr. Francis Bond, medical officer of health for Gloucester, writes to me—"I quite coincide generally with your views. . . . The relations of the leading exanthemata to one another are very interesting, and I agree that in the *main* the poison is *fundamentally identical*." Dr. Collins (London) is even more emphatic in his coincidence with these views. I would refer my readers to his paper in the *Lancet* of 14th May, 1880, and will here quote parts of a letter which he has sent me.

"I have come to hold views very similar to your own.

"I believe every one of the so-called acute specific fevers may originate, *de novo*, independently of contagium, under certain favourable conditions; and, further, that there is no

hard and fast line of specificity to be drawn between them, that one may pass into the other, that they are all species of one genus, and that so-called anomalous forms are the stages of transition. *I entirely agree with your views, except perhaps that I should not class pneumonia* and pleurisy* with the others, looking on them as simple local inflammation of lung and pleura; but should add variola,† varicella, measles, typhus, and mumps.*—(This I had actually done in other of my papers.) "In puerperal fever in its multifarious forms we can well watch the process of pathological *evolution* whereby *these so-called different diseases are differentiated from a common ancestral condition.* I have myself seen several of those diseases spring up from overcrowding, filth, and bad food; and these conditions usually held to be predisposing only, I firmly believe to be exciting also.

"I have seen cases intermediate between scarlatina and variola, and have known diphtheria in children give rise to scarlatina in the mother. The fact of being non-specific (or as you put it, there being a "unity of poison, &c.") does not deny their contagious character, nor the power of reproducing their like. Every one admits typhus can be generated by a certain degree of overcrowding, and I suppose no one denies its virulently contagious character.

"Burdon Saunderson has shown that, *starting with a simple irritant inflammation, he can produce a virulent specific poison, reproducing its like, and killing, either by pyæmia, or more slowly by tubercular disease.*

"Dr. W. B. Carpenter (*Brit. and For. Medico-Chir. Review* for 1853), on "Predisposing Causes of Epidemics," gives several instances of origination *de novo* of diseases *from eating bad food, &c.*

"Murchison argues strongly for the non-specificity of typhoid.

"Hutchinson believes gout and rheumatism to be essentially the same.

"Miss Nightingale, in her *Notes on Nursing*, gives some practical evidence as to the breeding of typhoid, variola, typhus, &c., *under different conditions of overcrowding.*

"I cannot help thinking that this view of the common nature ('unity,' I understand) of misnamed 'specific' diseases, will

* But I would refer my readers to my already quoted examples.

† Hebra (the great authority on skin diseases) denied any essential difference between the contagium of variola and varicella, having seen formidable outbreaks of the graver malady produced by a solitary example of the lighter and so-called "distinct disease."—See Dr. B. Walker's Letter in *Lancet*, 3rd June, 1882, page 938.

before long be more widely recognised, and with good result; for, if held and believed in, *we should seek to abolish these diseases by destroying, or avoiding, the external and internal conditions which generate and evolve them*, instead of seeking for a specific vaccine for every zymotic disease."

I have many other affirmative proofs, and expressions of opinion which I will not here quote, and will conclude with this axiom, that "by unity of poison is meant not that the poison is always the same; but that the one poison—the one *origo mali*—whatever it may be, will originate several so-called different affections."

ON THE LYMPHATIC SYSTEM OF THE ABDOMEN IN RELATION TO THE EXTENSION OF INFLAM- MATION, TUBERCULOSIS, AND CANCER.

By JOSEPH COATS, M.D.

THE peritoneum which is stretched over so many different organs, and has so many recesses and pouches, is very liable to be affected by diseases having their source outside itself.

It is necessary here to make some reference to the general relations of the peritoneal sac. It is a large lymph sac and fluid is continuously circulating through it. The surface of the membrane is covered with endothelium and there are innumerable apertures or stomata by which it communicates with lymphatic vessels beneath. It is proved by experiment that finely divided solid material introduced into the peritoneal cavity is very readily absorbed, and carried into the lymphatics. The transudation fluid which normally passes out of the blood-vessels, is doubtless absorbed by the stomata throughout the peritoneum, but there are two localities in which its absorption presents points of peculiar interest.

From certain facts to be afterwards referred to in connection with tuberculosis and cancer of the peritoneum, it may be inferred that the *great omentum* is specially concerned in the process of absorption. This double layer of peritoneum lying free in the cavity may be regarded as a drain by means of which the fluid is drawn off.

The relation of the *diaphragm* to the process of absorption

is also important. The lymphatics of the diaphragm communicate on the one hand with the peritoneal sac and on the other with the pleura so that fluid and finely divided solids may be carried through from one to the other. It is probable that the general course of the current is from peritoneum to pleura, although it may be reversed.

This great power of absorption possessed by the peritoneum is very important to bear in mind especially in relation to septic processes. The products of septic decomposition as well as the organisms which produce these changes may be absorbed; and absorbed sometimes in such quantity that they produce fatal results before they have had time to induce any considerable local effects. Hence it is that septic processes in the peritoneum are so serious and lead so commonly to septicæmia.

The fluid in the peritoneal sac is not at rest, but circulates, and the movements of the intestines doubtless have to do with its transportation from place to place. This fact is also of great importance, because we shall find that when any pathogenic agent is introduced into the peritoneal cavity it is generally carried to every part of the sac and produces its effects in every region. Abundant examples of this are afforded by tuberculosis of the peritoneum, inflammations, and so on.

INFLAMMATION OF THE PERITONEUM or **PERITONITIS** is hardly ever spontaneous in its origin. It seems remarkable that compared with the pleura or pericardium this membrane is so seldom the seat of inflammation as a result of the irritation of the blood in acute rheumatism for instance, or from the more vague causes of irritation designated as cold.

The peritoneum is, however, peculiarly liable to inflammations of a secondary character, the irritant proceeding either from without as in wounds of the abdomen or from one of the organs lying beneath the membrane.

Mere exposure to the air or the entrance of air into the abdominal cavity does not induce peritonitis, and even a somewhat prolonged cooling of the membrane as during an operation, does not seem to lead to inflammation.

Most of the inflammations of the peritoneum are *septic*, that is to say they are due to the presence and propagation of bacteria, usually in the form of micrococci, and the irritating chemical products which result. Those who are familiar with the manner in which bacteria propagate in suitable fluids, will not be astonished that a limited inoculation of septic material

produces a very rapid propagation in the peritoneum. The conditions are here peculiarly favourable to this. The movements of the intestine and the normal circulation of the peritoneal fluid carry the septic particles hither and thither, and they are sown over an extensive surface and supplied with nutritious material. The warmth of the cavity will also favour their propagation. So it happens that in a comparatively few hours we may have an intense inflammation, or we may have, as already stated, such an absorption as to cause death by septicæmia before considerable inflammation can develop.

The septic inoculation may take place by a wound in the abdomen made by accident or by an operation. More frequently the source is an underlying organ, as the stomach or intestine, or the uterus after delivery. In regard to the last mentioned source acute peritonitis is often a special feature in puerperal fever, and as this disease occurs in epidemics and is highly contagious, we should infer that there must be some peculiarity in the organism which causes it.

The septic inflammations partake of the character of similar inflammations in the pericardium and pleura. They are pre-eminently acute and tend rapidly towards suppuration. At first there is hyperæmia and a serous and fibrinous exudation. The exuded fibrine is visible on free surfaces as a soft yellow layer and is often present in the fluid as yellow flakes. It glues together surfaces which are in contact, such as the loops of the intestine, but the adhesions are not firm, they can be readily separated and the gluing material is seen to have a soft gelatinous character. As the inflammation goes on the fibrinous exudation which from the first has contained very numerous leucocytes and is correspondingly soft, becomes still more infiltrated with these, and assumes the characters of pus. Pus may be found in some parts while in others there is still the soft fibrinous exudation. It may be found in the neighbourhood of the original source of the inflammation, as around the vermiform appendage, where the inflammation is more intense or of longer standing. The pus and even any free fibrine that may exist, commonly gravitate to dependent parts, and we may find the pelvis and especially Douglas's pouch with a collection of yellow pus.

The peritoneum will in its finer details present changes similar to those in septic pleurisy and pericarditis. The endothelial cells will be separated and the connective tissue opened out by serous fluid and leucocytes. The underlying tissues are also altered, especially the wall of the intestine. The subserous, muscular, and mucous coats are often œdematous and thickened.

There is not infrequently considerable tympanitic distension of the intestine from the paralysis of the muscular coat. This meteorism is sometimes a peculiarly distressing feature in puerperal fever.

It will be inferred that septic peritonitis if general is almost necessarily fatal. Sometimes it is localised by adhesions and even after the occurrence of suppuration may subside and give place to chronic inflammation.

TUBERCULOSIS OF THE PERITONEUM is usually a primary disease. It may seem at first sight remarkable that tubercular ulcers of the intestine hardly ever give rise to a general tuberculosis of the peritoneum. In connection with these ulcers tubercles are formed in the muscular coat and very commonly beneath or in the peritoneum, and it may seem likely that the virus will get readily into the peritoneal cavity. But it is to be remembered that the lymph circulation is from the surface of the peritoneal cavity into the substance of the membrane, and that the normal currents will not carry the virus into the sac. Accordingly it is rare for tubercular ulcers to produce tuberculosis.

Local tuberculosis manifests itself in the form of *Tubercular Peritonitis*. It is clear in this case that the virus gets into the sac and is carried hither and thither throughout it by the regular circulation. The consequence is the formation of innumerable tubercular nodules and an inflammation of the peritoneum. It is not clear, however, in most cases how the virus gets into the peritoneum. There are cases where the tuberculosis of the peritoneum has obviously had its origin, for instance, in a local tuberculosis of the testis and vas deferens, and has begun in the inguinal region where the vas deferens approaches the peritoneum. But in the majority of cases no such source of infection can be found, and although, commonly, the person is in a state of ill-health before the tuberculosis begins to manifest itself and may have scrofulous tubercular manifestations elsewhere, yet there are cases in which the disease supervenes in persons apparently healthy and robust. We can only say that the facts that tubercles are formed in every part of the peritoneum, and that by reason of the communications through the diaphragm they also spring up in the pleura, are sufficient evidences of the existence of an infective material in the peritoneal cavity.

When a case of tubercular peritonitis is examined *post-mortem* we find evidences of chronic inflammation in the

form of thickening of the peritoneum and multiplied vascular adhesions in every part. The loops of the intestine are adherent to each other, and the superficial ones to the anterior wall of the abdomen, the omentum is adherent to the intestine, the liver to the diaphragm and so on. In the midst of these adhesions are numerous yellow masses of very various sizes, some as large as split peas, and usually flat. These caseous masses are composed of groups of tubercles which have very much the character of those found in tubercular pericarditis. The caseous tubercles have developed in the usual way out of grey miliary tubercles, and examination will usually show examples in the various intermediate stages.

The condition of the omentum is worthy of special mention. It is drawn together and thickened, and closely adherent to the intestine and wall of the abdomen, while in its substance numerous tubercular masses are to be found.

All these conditions indicate a chronic inflammation accompanied as usual by the new formation of vascular connective tissue with consequent adhesion. The yellow caseous masses here are collections of tubercles, mostly obsolete just as the caseous tubercles of the brain are, and here as there we may find recent tubercles at the margins of the caseous masses.

While this is the usual condition found after death, there is reason to believe that the inflammation in the earlier stages is more acute. There is often at first considerable accumulation of serous exudation in the abdomen. This is by and by for the most part absorbed and gives place to the adhesive inflammation, but often there is serous fluid among the adhesions, and during life the hand on the abdomen may sometimes enable us to detect the movement of fluid from space to space among the adhesions. The disease may be recovered from in its earlier stage, the virus being apparently overcome by the reinvigorated forces of the body. On the other hand the inflammation produced is sometimes more acute than usual, and in rare cases may be fibrinous and suppurative.

It has already been mentioned that tubercular pleurisy often develops in association with tubercular peritonitis. There is here for the most part serous exudation, and as the eruption is usually recent the tubercles are in the form of small white or grey nodules. They are commonly grouped mainly in the lower part of the pleural cavity, in this way indicating the source of the infective material.

THE SECONDARY EXTENSION OF CANCERS OF THE ABDOMINAL

ORGANS.—It is matter of observation that cancers of the stomach and intestine very often lead to secondary tumours in the liver and peritoneum, and it may be well to consider here more systematically what paths the infective material follows in passing from the primary tumour to the seat of the secondary growths.

The secondary growths in the liver, in the case of cancers of the organs mentioned, form in connection with the portal vessels, and there is no doubt that the material is brought to the liver by the portal veins, being derived from their radicals. But the question remains, How does the cancerous material find its way into the radicals of the portal vein? We know that as a rule in external cancers the secondary tumours occur uniformly in the lymphatic glands, and it is only after these have become involved that the cancerous material reaches the blood. We have to inquire whether the alimentary canal is placed in any different position to external organs in this regard, or whether any other explanation may be practicable.

For one thing we find in almost all cases of cancer of the stomach the lymphatic glands involved. They are the seat of cancerous growth, although perhaps not much enlarged. This raises the question whether, after all, the real course of events in the abdomen is not, first metastasis to the lymphatic glands and then from the glands into the radicals of the portal vein. In that case the formation of tumours in the liver would be an occurrence comparable to the generalization of an external cancer, when the blood becomes the vehicle of infection, and tumours spring up all over the body, the material being carried by the systemic arteries. The tumours in the lymphatic glands would thus be the secondary, and those in the liver really tertiary.

Supposing this view to be correct, then it follows that if a cancer of the stomach or intestine is so situated as to cause secondary growths in lymphatic glands whose veins are not radicals of the portal, the tumours of the tertiary order will not be in the liver but in the lungs, or beyond the lungs, in organs fed by the systemic arteries.

This is precisely what occurs. The author met with a case of cancer of the stomach in which, instead of the glands immediately outside its wall, as is usually the case, the pre-vertebral glands were enlarged and cancerous. One of these was adherent to the wall of the inferior vena cava, and on opening this vein a little white thrombus was seen peeping out of a small branch which emerged from the enlarged gland into the vein. There were cancerous thrombi in other veins

within these glands, and on microscopic examination it was found that the cancerous tissue in the glands had largely broken up the veins, and epithelial cells were found in them along with the blood. In this case there were innumerable cancerous embolisms in the lungs. A section of the lung showed arteries completely occluded with solid material, and with a high power cancer cells could be seen in these vessels. There were outside the arteries well formed epithelial processes apparently inside the lymphatic spaces.

This case would seem to indicate that cancers in lymphatic glands may, by breaking up the gland, penetrate into its venous radicals, and so pass into the general circulation. It seems a legitimate inference from this exceptional case that when the liver becomes involved in cancer of the alimentary canal it does so by the portal blood becoming infected through the lymphatic glands.

There remains one possible difficulty in the way of the acceptance of this view. In external cancers it is exceptional for the general circulation to become infected. The disease generally ends by infecting the lymphatic glands, whereas in cancers of the abdominal organs the liver is affected in a large proportion of the cases. But this difficulty also is hardly insurmountable. A person with a cancer of the mamma, let us say, very commonly dies from the ulceration of the primary or secondary growth, or of both. The lymphatic glands of the axilla being situated externally, are liable to ulceration, and the patient usually dies before the infection has reached the general circulation.

In the case of abdominal cancers, however, the organs themselves, and especially the lymphatic glands, are protected by their position, and the cancers are not so apt to interfere with the general health as external cancers. If the history of even an extensively ulcerating cancer of the stomach be compared with that of a cancer of the mamma the difference will be very apparent. If the cancer of the stomach does not produce vomiting or stricture of the pylorus, there may be for a long period very little disturbance of the general health, and little more than symptoms of dyspepsia. It seems probable from the history of some cases that a cancer of the stomach may go on for many years without causing death. The abdominal lymphatic glands are still more protected. They practically never ulcerate, and in relation to direct injury to health cancer in them is of little account.

It seems probable then, that in cases where the liver is affected, the disease is often of much longer duration in its

primary seat than is often suspected. How often are cases of multiple cancer of the liver examined after death, in which no suspicion has existed during life of the existence of a primary tumour in the stomach, and this tumour may possibly have been going on for a period whose duration cannot in any way be gathered.

We have now to consider the case of CANCEROUS INFECTION OF THE PERITONEUM from primary cancer of the abdominal organs. The seat of the cancer may be any of the abdominal organs; the peritoneum becomes infected when the cancerous material finds its way into the cavity.

There are some cancers which have comparatively little tendency to extend along the lymphatics to the glands, but prefer to insinuate themselves among neighbouring structures, and advance by continuity of tissue. This applies especially to colloid cancer, which will often grow through the wall of the stomach or intestine while the glands are hardly at all affected. We can understand that a cancer with such a rigid stroma as this form has, and with cells which so readily swell up and become transformed, will not readily allow of transportation of its elements. But this form of cancer very readily, after growing through the wall of the stomach or intestine, infects the peritoneum and there is no form of cancer which in such a large proportion of cases produces secondary tumours there.

The cancers of the ovary being already very close to the peritoneum will readily produce cancerous infection, and will do so in almost every form of cancer. Cancers of the pancreas will also frequently have a similar course for the same reason. The ordinary cancers of the alimentary canal more rarely pass through the walls and infect the peritoneum, but they sometimes do. It is besides not uncommon to meet with what we may regard from the above as a tertiary cancer of the liver, producing an infection of the peritoneum, some of the tumours of the liver reaching the surface and infecting it through the capsule.

When the cancerous material gets into the peritoneum it is carried throughout it by the circulating fluid aided by the movements of the intestine, and secondary cancerous tumours commonly spring up in the most diverse regions. It is to be remembered that in the peritoneum there are innumerable open stomata ready to absorb any finely divided solid matter that may be suspended in the peritoneal fluid.

The infective material will therefore be carried from the

surface into the substance of the peritoneum or into the sub-peritoneal tissue, and the resulting tumours may even be sub-peritoneal. They form usually flat growths with smooth surface, the general surface of the peritoneum being perhaps unbroken.

Not infrequently the tumours are continuous with one another in some parts of the abdominal wall, a layer of cancerous tissue appearing like a sub-peritoneal thickening.

The great omentum is somewhat peculiarly situated in this regard. We have seen that it probably acts as a kind of drain in the peritoneal cavity, and if this be the case, it will specially absorb any material which gets into the cavity. In accordance with this we find that, in cancer of the peritoneum, there is usually very great new-formation in the omentum. In colloid cancer, it sometimes assumes the form of a bulky heavy mass, and in other forms we have it gathered up and converted into a solid transverse tumour. We may venture the statement that this fact is too little known among physicians, and that a great omentum thus altered is frequently taken during life for an enlargement of the liver, or a primary tumour of some obscure kind.

The relation of peritoneal cancers to the diaphragm presents some points of interest. We have seen that the diaphragmatic lymphatics communicate with the peritoneal sac on the one hand and the pleural sac on the other. In peritoneal cancers the diaphragm is usually as if permeated with cancerous growths, and it is often seen that these are in cords as if following the course of the lymphatics. Through time they extend to the pleural surface, and tumours may appear here. If there are no pleural adhesions in this region the infective material will pass into the pleural cavity, and numerous tumours are often found, especially in the lower parts of the pleura. Adhesion of the lung to the diaphragm prevents this extension of the cancer.

CURRENT TOPICS.

REPORT OF THE ROYAL COMMISSION ON THE MEDICAL ACTS.
—In a future Number we shall take the opportunity of offering remarks on this important Report. Meanwhile we repro-

duce for reference an abstract of it from the *British Medical Journal*.

The report is signed by the Commissioners—Lord Camperdown, the Bishop of Peterborough, Mr. W. H. F. Cogan, Sir George Jessel (Master of the Rolls), Mr. Sclater-Booth, Sir William Jenner, Mr. John Simon, Professor Huxley, Dr. R. McDonnell, Professor Turner, and Mr. James Bryce. Appended to it are expressions of dissent from various portions by Mr. Simon, Professor Turner, Mr. Sclater-Booth, Professor Huxley, the Bishop of Peterborough, and Mr. Bryce.

The Commissioners report that they have held forty meetings, and have examined such persons as they thought necessary, and have also received written statements from various persons and from the various medical bodies. They have also had before them the evidence given before the Select Committee appointed in 1879 and 1880 to consider the Bills for the Amendment of the Medical Acts.

The report is arranged under the following heads:—

I. Grant of Medical Licences.

II. The General Medical Council: Constitution, Functions, Powers, and Procedure, Relations to the Universities, Colleges, and Medical Bodies, and to the Medical Profession.

III. Courses of Education.

IV. Courses of Examination.

V. Grant of Medical Degrees, Memberships, Fellowships, Licences, and other diplomas of Universities, Medical Colleges, and other Bodies.

VI. Privileges conferred upon Registered Practitioners; Restrictions, Disabilities, and Penalties imposed upon Practitioners not so registered.

VII. Practice in the Queen's Possessions, out of the United Kingdom, of Registered Medical Practitioners; and Practice in the United Kingdom of Medical Practitioners educated in the Possessions out of the United Kingdom or in a Foreign State.

VIII. The Conditions of Manner under or in which Medical Practitioners are entered in or struck off the Register of Medical Practitioners.

IX. The Medical Act, 1858, and the Acts amending the same.

I. *Grant of Medical Licences*.—After a brief sketch of the present system of medical licensing, the Commissioners remark that the Act of 1858 would appear to have been passed rather in the interests of the general public than with a view to protecting the separate interests of the medical profession. Parlia-

ment was not prepared to enact that registered persons alone should practice medicine or surgery, but it seems to have been assumed that, if a statutory distinction were drawn between registered and unregistered practitioners, the public would know how to protect itself against unqualified persons. At the same time, the importance of obtaining the concurrence of the universities and medical corporations made it impossible then to do more than to require that their examinations should be subject to the supervision of a central authority, appointed to the extent of more than two-thirds by themselves, and having only a power of representing their shortcomings to the Privy Council.

The licensing bodies being nineteen in number, dissimilar in constitution, and conferring different titles, it was not to be expected, and not to be desired, that their examinations should be uniform or even approximately equal in standard.

The large majority of the licensing authorities have shown a praiseworthy readiness to introduce improvements into their examinations, whether originated by themselves or suggested by the General Medical Council. Since 1858, all the authorities have agreed to insist on a preliminary examination of each intending medical student; and the examinations in science, and in most cases the practical examinations, have been improved.

On the other hand, it has been stated, that not only do the diplomas and degrees of these medical authorities imply very different standards of skill and knowledge, but that in some cases the possession of a diploma affords no guarantee that the practitioner holding it possesses a competent knowledge of medicine, surgery, and midwifery.

Another prominent defect of the present licensing system lies in the fact that nearly all the medical corporations grant diplomas in medicine alone or in surgery alone. Further, even the diploma of the Royal Colleges of Surgeons of England and Ireland does not imply a knowledge of midwifery. There is no point of medical reform on which there is so general an agreement as that the holding of a medical licence ought to imply the attainment of a sufficient standard of proficiency in all the three essential branches of medical practice—medicine, surgery, and midwifery.

Again, new universities will doubtless from time to time be created in the United Kingdom, each of which will, of course, lay claim to the privilege of giving a medical degree and of thereby becoming a licensing authority. Already the Victoria University has claimed this; and it is not easy to see on what

reasonable ground such claims can be resisted. Yet the fact of the licensing bodies being even so numerous as they already are makes the adequate visitation of their examinations a matter of great difficulty and expense. Moreover, were the present system continued, new universities would also claim to send representatives to the Medical Council—a body generally allowed to be already too large.

A proposal has been made that no limit should be fixed as to the number of licensing universities and corporations, provided that in every case coadjutor examiners, sent by a central authority, be admitted by the corporation or university to its examining board. Having considered this proposal, the Commissioners are unable to recommend its adoption.

Another plan that has been suggested is, that an examination, conducted on behalf of the State, should be the necessary preliminary to enrolment on the *Medical Register*; and that such examination should be open only to those who had previously obtained a complete qualification by licence or degree from some chartered medical authority or authorities. To the arguments in favour of such a plan, the Commissioners answer, that the general voice of the profession is opposed to any plan which will add a new examination; and this objection is based not only on the additional expense, but on the distraction of the students by two different examinations.

It is the opinion of the Commissioners that the holding of a licence ought to be conclusive evidence of sufficient proficiency in medicine, surgery, and midwifery; and they have arrived at the conclusion that such a standard of proficiency can only be ensured by reducing the number of licensing authorities.

They propose, in general terms, that there shall be one Medical Council, and that, in each of the three divisions of the United Kingdom, there shall be a divisional board, representing all the medical authorities of the division; that the right of admitting to the *Medical Register*, and a general control over the proceedings of the divisional boards, shall vest in the Medical Council; and that, subject to such control, each divisional board shall, in its own division, conduct the examinations for licence.

The detailed proposals with regard to divisional boards are as follows. 1. In each division of the United Kingdom a divisional board shall be appointed, whose certificate shall be necessary for admission to the *Medical Register*. 2. Each divisional board shall contain one or more delegates of each chartered university and medical corporation, whether now existing or hereafter to be created. 3. The number and pro-

portion of such delegates should, in the first instance, be fixed by Parliament, due regard being had to the special claims of particular universities and corporations, as, for instance, in Scotland, the Universities of Edinburgh, Glasgow, and Aberdeen; and, in England, the Colleges of Physicians and Surgeons; and provision being made for a decennial revision of the allotment of members, with a view to altering the proportion, if changes in the relative importance of the bodies hereafter render such alteration desirable; such revision to be made by the Medical Council subject to appeal to the Privy Council. 4. The members of the divisional board should be elected from time to time for a term not exceeding five years, and should be capable of re-election.

The duties and functions of each divisional board should be :

1. To appoint a certain number of persons to be members of the Medical Council ;
2. To prepare regulations for a course of professional study and rules for examination, so far as may be necessary to secure the requirements and the standard prescribed by the Medical Council ;
3. To nominate from time to time the medical educational bodies, whose certificates shall be accepted as to sufficiency of education, and from time to time to expunge, when desirable, any so nominated ;
4. To take all necessary steps, by inquiry or otherwise, to ascertain the sufficiency of the education given in each medical school in the division ;
5. To appoint the examiners for the divisional board examinations, and to supervise those examinations ;
6. To visit from time to time any separate professional examinations conducted in the division, which are accepted by the Medical Council ;
7. To take such cognisance as may be necessary of the preliminary examinations, and to keep a register of the medical students in the division ;
8. To receive and act upon the reports of the examiners, and to report, after each examination, the result thereof to the Medical Council ;
9. To make an annual report of their proceedings to the Medical Council.

Power should be given to a divisional board to delegate any of its functions or powers to any committee of its number, of which the quorum ought not to be less than three. Every decision, however, of a committee should be subject to revision by the divisional board at a subsequent meeting. Any corporation or individual aggrieved by the action of a divisional board ought to be entitled to an appeal to the Medical Council. All proposals for regulations should proceed, in the first instance, from the divisional boards, as directly representing the professional and teaching bodies, but always subject to the subsequent approval of the Medical Council.

II. *The General Medical Council.*—In proceeding to speak of this body, the Commissioners express their opinion that it is clearly proved that the General Medical Council has rendered valuable services to the profession and to the public. To it, the universal adoption of a preliminary examination for intending medical students is mainly due. The Council has also elaborated and published full and detailed recommendations, which have had a very beneficial influence upon the education and examinations of medical students. Further, it has instituted visitations, which, so far as they have gone, have had an excellent effect in improving particular examinations, and generally raising the standard of examination.

Whether the Council has in these respects done all that might have been done, appears open to question. It is not, however, difficult to discern causes which may probably have influenced the Council; the expense of conducting frequent and systematic inquiries; the great power of the individual medical authorities, of which most send a representative to the Council itself; the desire to persuade rather than to compel; and, also, the constant expectation of further legislation.

The Commissioners propose that the Medical Council shall consist of eighteen members, chosen for a term of five years, and eligible for re-election; of whom six shall be nominated by the Crown; two elected by the registered members of the medical profession resident in England; one by the registered members resident in Scotland and in Ireland respectively; four by the English Divisional Board, and two by the Scotch and Irish Divisional Boards respectively. They suggest that one or two distinguished persons, not members of the medical profession, might with advantage be appointed by the Crown.

The Branch Councils will cease to be necessary, as the divisional boards will take their place. The invested funds belonging to each Branch Council should be transferred to the divisional board.

Regarding the direct representation of the profession upon the Medical Council, the Commissioners remark that it seems highly important that the profession should have full and complete confidence in the Council; and seeing that the governing bodies of the medical corporations can hardly be said to represent the great majority of practitioners, they think it advisable to give the general practitioner an effective voice in the body which will be the principal authority of the medical profession. They see no reason to suppose that the members elected by direct representation will be less eminent

than those nominated either by the Crown or by the divisional boards.

The Medical Council should annually elect from among their own number a president; who should be eligible for re-election. It should be the sole licensing authority, and should receive from the divisional boards annual reports of their proceedings. It ought also to be in general communication with the boards. The Council should also have power to visit any examinations, to make any inquiries, and to call for any information from the medical schools, the medical authorities, or the divisional boards. The Council should also have power to take such evidence and to make such inquiries as they think fit, with a view to arriving at a decision on any matter. The Council should also have power to vary or annul any resolution of a divisional board; and in any such case the decision of the Council should take effect and should hold good until reversed on appeal by the Privy Council. In the event of a divisional board failing to perform its duties, the Medical Council should be empowered to act in its stead. The Medical Council ought also to take proper steps to ensure, as far as possible, equality in curriculum and examination between the three divisional boards.

It is not, however, intended that the Council shall be the executive, or even the initiating body in questions relating to medical education and examination. But the regulations will originate with the divisional boards, which also will be the executive bodies for administration; and the proposals of the boards will be submitted to the Council for approval or variation.

The Council should be allowed to delegate any of their powers to any committee of their number, of which the quorum should not be less than three. Every decision of a committee should, however, be subject to revision by the Council.

Any corporation or individual aggrieved by the action of the Medical Council ought to be entitled to an appeal to the Privy Council.

With the administrative functions in connection with the *Medical Register* and *Pharmacopœia* hitherto discharged by the Medical Council, the Commissioners do not propose to interfere.

III. *Courses of Education.*—The Commissioners state that, although they have recommended that the divisional boards should prepare, and submit for the approval of the Medical Council, regulations for courses of study, these should be only a general outline of what is necessary. It would be a mistake

to introduce absolute uniformity into medical education. In certain matters of general importance, such as the duration of study and the age at which a student should be permitted to practise, common regulations ought to be laid down; but nothing should be done to weaken the individuality of the universities and corporations, or to check emulation between the teaching institutions.

IV. *Courses of Examination.*—The Commissioners agree in the opinion that every intending medical student ought to pass an examination in general education before entering on medical study. As the purpose of this examination is only to test the possession of a reasonable amount of general culture, its subjects should not be of a technical or professional nature, and care should be taken to prevent its standard from being unduly raised or lowered; and, further, a sufficient diversity of subjects should be included in it to allow of candidates making a selection according to their previous education and mental qualifications. The general scope of the examination should be defined by the divisional boards, subject to the approval of the Medical Council; but the conduct of the examination should be left to the Universities or such other educational or examining bodies as may be approved by the Medical Council.

The system under which every student of medicine is now required to be registered, on passing his preliminary examination, should be continued. The full period of medical study should be passed after the date of registration. The registration of medical students ought to be placed under the charge of the divisional boards, and an officer of each board should keep a list of the names. A person ought to be able to register himself as a medical student on producing, or forwarding, to the divisional board of that part of the United Kingdom in which he is residing a certificate of his having passed a preliminary examination as required. Each divisional board should transmit to the registrar of the Medical Council a list of all medical students registered during the preceding six months in the division.

During the course of medical study, professional examinations, other than the final examination, ought to be held by examiners of the divisional boards. But power should be given to the Medical Council to accept the results of similar professional examinations conducted by the separate medical authorities, on being satisfied that such examinations are of a sufficient standard.

The final examination in systematic and clinical medicine and surgery, and in midwifery, ought to be conducted by the examiners of the divisional boards in every case.

With regard to the Scottish Universities, it has been proposed that they should retain their licensing power, on condition of admitting a certain number of examiners *ab extra*. To this request the Commissioners are unable to accede. They readily acknowledge all that the Scottish Universities have done for medical teaching and examination; and they do not propose to interfere with their teaching, nor do they believe that students will cease to recognise the cheapness and excellence of their education. The Commissioners propose that all their examinations, save the final one, should, if satisfactory to the Medical Council, be accepted by the divisional board; and they require from them no concession which is not required from every other university and corporation in the kingdom. It must not, however, be imagined that the licensing power is proposed to be transferred to a central authority in which the Scottish Universities will have no share. On the Scottish divisional board, the Scottish Universities will possess a preponderating influence which will be felt in many ways. They will send to the board a majority of its members. The examinations will doubtless in many cases be held in their halls, and it is only natural to suppose that any requests which they may make will have great weight with the Scottish divisional board and with the Medical Council.

There should be power to hold the examinations of the divisional board at more than one place in each division of the kingdom, if this should be found desirable. The examiners, while placing in one class all candidates who pass, should have power to state that any individuals have passed the examination with distinction.

The Medical Council should take steps to insure that equality of value should be assigned to the same subjects in the examination of all the divisional boards, and that the standard for passing in each subject and in the whole examination should be the same.

Subject to the discretion of the Medical Council, examiners ought not to fill the office of examiner for a continuous period of more than from four to six years.

With a view to promoting approximate equality in the examinations, some of the examiners in each division may with advantage be selected from another division of the United Kingdom.

The fees for admission to the examinations of the divisional

boards should be sufficient to cover the cost of the expenses of the divisional board, and also to provide the sum required to compensate the medical authorities, or such of them as may be entitled to compensation, for any pecuniary losses they may sustain by reason of the abolition of their privilege of conferring a licence to practice; provided that the fee to be paid by medical graduates, or persons holding university certificates of having passed the professional examinations qualifying for admission to the final examination of the divisional boards, shall not exceed their proportion of the sum sufficient to cover the cost of the examination and other expenses aforesaid; but this reduction of fee is not to be allowed to a member of any university which obtains such compensation as aforesaid. The divisional boards should prepare schemes for the division of the surplus fees arising from the examinations applicable to compensation, which schemes should be submitted to the Medical Council for approval.

V. Grant of Medical Degrees, Memberships, Fellowships, Licences, and other Diplomas by Universities, Medical Colleges, and other Bodies.—The Commissioners do not propose to interfere with the present powers of universities or corporations to confer their titles, with or without examination. But in the case of persons entitled to be registered, a discretion should be given to the Medical Council to permit these titles to be registered or not.

Each medical corporation ought to receive a statutory power to accept the certificate of a divisional board, in lieu of any examination, for admission to its lowest qualification; and each university should receive a statutory power to accept the same certificate in lieu of its final examination in systematic and clinical medicine and surgery and in midwifery for primary graduation,

The Commissioners deprecate any interference with the examinations of the medical authorities for their higher titles. To higher titles they attach the greatest value, as a means of encouraging the acquisition of knowledge and skill in the medical profession.

They recommend that the Victoria University be placed without delay on the same footing as the older universities with regard to the granting of medical degrees.

They do not propose to interfere with the discretion of the universities or medical corporations in the matter of fees.

VI. Privileges conferred upon Registered Practitioners;

Restrictions, Disabilities, and Penalties imposed upon Practitioners not so Registered.—The Commissioners consider it undesirable to attempt to prevent unregistered persons from practising, but, at the same time, they should be prevented from representing themselves as being registered, or from assuming titles which would lead the public to believe that they are regular medical men. Prosecutions for offences under the Medical Acts should be undertaken in England by the Public Prosecutor, or by anybody with the assent of the Attorney-General; in Scotland by the Procurator-Fiscal, or by anybody with the assent of the Lord Advocate; and in Ireland by the Crown Prosecutor, or by anybody with the assent of the Attorney-General. The sums of money arising from conviction and recovery of penalties should be paid to the Medical Council.

With regard to the admission of women to the practice of medicine, the Commissioners remark that, if divisional boards be appointed, it appears only fair and reasonable that women should be admitted to the examinations on the same terms as men, and should, if successful, be entitled to registration. The Commissioners acknowledge the moderation with which the views of women have been laid before them, and the unwillingness of their advocate to retard medical reform by bringing forward extreme demands.

VII. *Position in Her Majesty's Possessions out of the United Kingdom of Registered Medical Practitioners: Position in the United Kingdom of Medical Practitioners educated in Her Majesty's Possessions out of the United Kingdom, or in a Foreign State.*—After reviewing the present condition of these matters, the Commissioners say that, in the public interest, it is not desirable to hinder competent foreign or colonial doctors from practising in the United Kingdom; and medical men in England seem to be generally agreed that, if a satisfactory guarantee of competency can be obtained, doctors holding foreign and colonial diplomas ought to be registered in the United Kingdom without further examination.

It is evident that there must be considerable difficulty in discriminating between the diplomas given by different universities abroad and in the colonies. The Commissioners cannot, however, suggest a better solution of the difficulty than that proposed in the Government Bill of 1880.* The

* The provisions of the Bill in regard to foreign and colonial diplomas are as follows:—

7. Where a person shows that he holds some recognised medical diploma
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duty of discriminating between the different foreign and colonial diplomas is thereby entrusted to the Medical Council; and safeguards are provided against the possibility of a British subject obtaining a foreign or colonial diploma merely for the purpose of avoiding the medical examinations in England, Scotland, or Ireland.

VIII. *The Conditions and Manner under or in which the Medical Practitioners are entered in or struck off the Register of Medical Practitioners.* If the recommendations as to

or diplomas (as hereinafter defined) granted to him in a British possession, and that he is of good character, and either that the grant of such diploma or diplomas occurred when he was not domiciled in the United Kingdom, or in the course of a period of not less than five years, during which he resided out of the United Kingdom (or if he was practising in the United Kingdom at the passing of this Act, that he has practised medicine or surgery, or a branch of medicine or surgery, for not less than ten years, either in the United Kingdom or elsewhere), such person shall, upon payment of the registration fee, be entitled, without examination in the United Kingdom, to be registered as a colonial practitioner in the *Medical Register*.

8. Where a person shows that he obtained some recognised medical diploma or diplomas (as hereinafter defined) granted in a foreign country, and that he is of good character, and either that he is not a British subject, or that, if a British subject, he has practised medicine or surgery, or a branch of medicine or surgery, for more than ten years elsewhere than in the United Kingdom (or, if he was practising in the United Kingdom at the time of the passing of this Act, for not less than ten years, either in the United Kingdom or elsewhere), and either continues to hold such diploma or diplomas, or has not been deprived thereof for any cause which disqualifies him for being registered under this Act, such person shall, upon payment of the registration fee, be entitled, without examination in the United Kingdom, to be registered as a foreign practitioner in the *Medical Register*.

9. The medical diploma or diplomas granted in a British possession or in a foreign country, which are to be deemed such recognised medical diploma or diplomas as are required for the purposes of this Act, shall be such medical diploma or diplomas as may be recognised for the time being by the General Medical Council as furnishing a sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of both medicine and surgery, including therein midwifery, and as entitling the holder thereof to practise medicine or surgery, including therein midwifery, in such British possession or foreign country.

If a person is refused registration as a colonial practitioner or as a foreign practitioner, the medical registrar shall, if required by him, state in writing the reason for such refusal; and, if such reason be that the medical diploma or diplomas held or obtained by such person is or are not such recognised medical diploma or diplomas as above defined, such person may appeal to the Privy Council; and the Privy Council, after communication with the General Medical Council, may dismiss the appeal, or may order the General Medical Council to recognise such medical diploma or diplomas, or any of them, and such order shall be duly obeyed.

divisional boards be adopted, it appears unnecessary to maintain more than one registrar and one office of registration—the Registrar and the office of the Medical Council.

On issuing certificates to successful candidates, the divisional boards should return to the Registrar of the Medical Council a list of the names. On the receipt, or the personal presentation, of the certificate, the registrar (having, by reference to his list, verified the authenticity of the certificate) should enter in the *Medical Register* the name of the person holding the certificate, upon payment by him of the registration fee. The fee should be applied in discharge of the expenses of the Medical Council.

The correctness of the *Register* being very important, the registered practitioner should send his address and correct designation to the registrar annually; and, in the event of his failing to do so, and also failing for six months to answer a letter from the registrar, the latter should be empowered to remove his name from the *Register*. The registrar should be entrusted with power to restore a name so erased to the *Register* immediately on obtaining clear evidence that the person so erased was alive and in practice, and on receiving the fee payable for such restoration. The registrar should report all cases of erasure and restoration to the Medical Council, or their executive committee, at their next meeting.

The power of erasing names from the *Register* for misconduct should vest, as now, in the Medical Council.

The insertion of a name in the *Medical Register* should by itself confer upon the holder a licence to practise.

All titles now registrable, if recognised by the Medical Council, and all titles of a similar character hereafter recognised by the Medical Council, should be registrable. A column should be set apart in the *Register* for the registration of the higher titles recognised by the Medical Council.

Any university or corporation should be permitted to appeal to the Privy Council, if dissatisfied with the refusal of the Medical Council to recognise its diploma as worthy of registration, or its higher title as a higher title.

There should be separate lists in the *Medical Register* for the registration of persons holding recognised foreign or colonial diplomas.

IX. *The Medical Act, 1858, and the Acts amending the same.*—If it be deemed hereafter expedient to lay before Parliament a Bill further amending the Medical Acts, the Act of 1858 and the subsequent Acts should be wholly repealed,

and the parts of the same which it is proposed to continue should be re-enacted; so that the law affecting the medical profession may be brought together in a simple and codified form.

Subjoined to the report are a series of memoranda by members of the Commission, expressive of their dissent from certain portions.

1. MR. SIMON objects to the opinion that the discretion of each authority as to conferring in future such titles as those by which it now licenses, needs not to be restricted. He does not think that authorities should have the power of conferring medical titles (honorary) on persons not qualified for registration. He differs also from the opinion that "*all* titles now registrable, if recognised by the Medical Council, and *all* titles of a similar character hereafter recognised by the Medical Council, should be registrable." He holds that the one common title of licence to practice (such as "Registered Medical Practitioner," or "Licentiate in Medicine and Surgery"), and the duly authenticated higher titles, should alone be registrable. He also recommends that all holders of registered higher titles, from whatever source, should have legal right to prefix the title of "Doctor" to their names.

2. MR. SIMON and PROFESSOR TURNER do not concur in the recommendation that part of the Medical Council should be appointed by a process of general election in which every medical practitioner in the United Kingdom should be entitled to vote. They do not think that the Council has to stand in any such relation of trust or duty towards the individual members of the profession as to make it reasonable for them to expect any electoral privilege in relation to it. They believe also that the electoral process would be attended with disadvantages, and would be in this case about the least appropriate mode of election which could be proposed. They hold that the attempts which have been made to show that the proposed method of election would tend to improve the structure of the Council as a machinery for governing medical education, have entirely failed. With regard to the popularity of the demand, they think it clear that this is not only no conclusive reason why the demand should be conceded, but is rather an impressive warning as to the dangers which concession of the demand might involve. "It shows the stake not to be a mere abstract principle concerning the constitution of the Council, but a principle fraught with immediate practical consequences; and it is in fear of what we believe these

would be, that we deprecate concession of the principle. We believe that such concession would be popularly understood as concession to an extreme doctrine of class-interests, and that the members of Council, 'representing the mass of the profession,' would be regarded as having a special mandate for class-interests as distinguished from the general public purposes of the Council."

Mr. Simon and Prof. Turner also disapprove of the suggestion that the Crown might appoint one or two distinguished persons not of the medical profession; except in the case of experts in the natural sciences, one of whom might now and then be eminently fit to be nominated to the Council. They express the opinion that the Council should consist of twelve members; eight to be appointed by the divisional boards, and four by the Crown.

3. MR. SCLATER-BOOTH agrees with Mr. Simon and Professor Turner, in dissenting from the recommendations as to direct representation of registered medical practitioners on the Medical Council.

4. PROFESSOR HUXLEY objects to the scheme of examination recommended in the report, on the ground that it interferes unduly with the just claims of the existing licensing bodies, and also unduly taxes the medical profession. He proposes that, if any examining body satisfies the Medical Council (or other State authority) that it requires full and efficient instruction and examination in the three branches of medicine, surgery, and midwifery, and if it admits of a certain number of coadjutor examiners appointed by the State authority, the certificate of that examining body shall give admission to the *Medical Register*. He agrees with the majority of the Commission that the adoption of the State examination system in this country is impracticable.

5. The BISHOP OF PETERBOROUGH defends the system of State examination, which, he believes, would effect with least cost of time and money to the student, and with least disturbance of existing interests, the reform of admitted defects in the present licensing system.

6. PROFESSOR TURNER dissents from the proposal to transfer the licensing power from the medical authorities to divisional boards. He suggests the following proposal. (a) No person shall receive a licence to practise and be admitted to the *Medical Register* who does not possess a complete qualification in both medicine and surgery, including therein midwifery. (b) The diplomas granted by those authorities, viz., the universities, which conduct complete examinations, and confer

degrees in medicine and surgery, shall also be licences to practise and admit to the *Register*. (c) Those authorities, viz., the corporations which grant diplomas in medicine alone, or in surgery alone, shall combine in each division of the kingdom, conduct a complete examination, and confer a qualification both in medicine and surgery which shall admit to the *Register*. (d) The Medical Council shall appoint assessors to attend the several examinations conducted with the view of conferring the licence to practise both by the universities and by the conjoined corporations. These assessors shall report after each examination if it be satisfactory or not, and the Medical Council shall have power to suspend all examinations which are not of a sufficient standard of proficiency. Under this system, the visitation of examinations now made periodically by the Medical Council would be no longer required, and the money at present expended on visitations could be employed to pay these assessors.

7. MR. BRYCE dissents from the proposed establishment of a new examining board for each part of the United Kingdom, by which alone licences are to be given.

2 GREAT KELVIN TERRACE,
HILLHEAD, GLASGOW.

DISCUSSION ON THE COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES.—*Memorandum*.—In your last Number, page 59, I am represented as having said "that the power of the old law [the Public Health (Scotland) Act, 1867] was quite sufficient." This is a mistake on the part of the reporter, as no such opinion was ever expressed by me. On the contrary, I hold, most strongly, that the power of the old law is utterly insufficient; and that the compulsory notification of infectious diseases, by the direct method, should be the subject of legal enactment.

JAMES CHRISTIE, M.D.

Obituary.

THE LATE DR. ANDREW BUCHANAN.

GLASGOW has recently lost one of its well known citizens, and the medical profession the last link which joined the present generation with the old school of practitioners who flourished

about the time of the Reform Bill. Professor Andrew Buchanan was appointed to the chair of Institutes of Medicine in the University in 1839, when it was founded, and held it till 1876, when he retired; and during that long time he, till his death, was known and respected by his pupils and friends as a prominent member of the University and profession.

Dr. A. Buchanan was born on the 10th December, 1798. His father was Mr. Andrew Buchanan, merchant in Glasgow, and his mother was Miss Margaret Cockburn, of Edinburgh. His brother, Walter Buchanan, was Member of Parliament for Glasgow, and is still alive.

He was educated in the Grammar School of Glasgow, and entered the University about 1811—where he received his general and medical education. But he spent a part of his curriculum in Edinburgh, and thereafter studied in Paris and visited Italy. He took the degree of M.D. in the Glasgow University in 1822, and was admitted a Fellow of Faculty in 1824. All his life Dr. A. Buchanan was interested and engaged in medical education. In 1828 he was appointed Professor of *Materia Medica* in the Andersonian University, and when there wrote a most vigorous pamphlet on the monopolies in learning and education.

In 1835 he was appointed one of the surgeons of the Royal Infirmary, and, with occasional intervals (by the order of rotation which then existed), continued to do duty in that institution till 1862, when he finally retired.

During his tenure of office he introduced several improvements in practical surgery and in the treatment of disease. Those who were students in his wards will remember the method he introduced for administering iodine—by large doses of iodide of starch—by which he believed that larger quantities of the medicine could safely be given than by any other combination.

Soon after he began practical surgery he wrote a paper on a means of diagnosing dislocation of the head of the femur backwards into the sciatic notch—a form of injury sometimes difficult of detection. He showed that, by placing the patient on his back and raising him into the sitting posture, or by raising both knees so that the thighs are at right angles to the body, the shortening, which before is sometimes difficult to appreciate, becomes increased to $1\frac{1}{2}$ to 2 inches. He also suggested a method of reduction which, however, is now obsolete, in consequence of the introduction of the now almost universal American or manipulation method.

He also contrived, in 1835, and published in the *London Medical Gazette*, 1841, a method of restoring the lower lip by flaps from the neck, after complete excision of the lower lip for epithelioma. A modification of this operation was performed and described by Mr. Syme in his work *Observations on Clinical Surgery*, many years after Dr. A. Buchanan had published his account of it; and in Edinburgh, and by students of that school, it is known as Syme's operation for restoration of the lower lip. But the true account of the origin of the operation was republished by Dr. A. Buchanan in the *Glasgow Medical Journal* for January, 1859.

His chief reputation as a surgeon, however, rests on his introduction of the operation of lithotomy by a rectangular staff in 1847. He was led to this by the same considerations which induced Dupeyren to use his double *bistouri caché*; and Dr. Buchanan began in 1846 to use it, as it often still is in France. From this he was led by a series of alterations to the method which he ultimately adopted, and which has been practised by most of the surgeons in Glasgow. The details of the operation are well known. Still, in connection with this notice, it may not be out of place to specify in a few lines its principles.

Its peculiarity consists in the use of a staff, of which the last part, 3 inches long (for an adult staff), is placed at right angles to the shaft and grooved deeply on the side. The knife is straight on the back, and is of the same length as the groove on the staff, and about half-an-inch broad for an adult.

In operating, care must be taken about the following points:—The staff, which is usually introduced without difficulty, is placed so that the angle lies in the membranous part of the urethra. An assistant presses down the shaft—instead of pulling it up as in the ordinary lateral operation—thus causing the angle of the staff to project as a knob in the perineum just below the bulb and above the anus. The operator puts his left forefinger into the rectum, and with it easily feels the angle in the perineum above, and he places the palmar surface of his finger tip on the under surface of the angle—thus supporting it and feeling the pressure downwards given by the assistant holding the staff. The nail of the left thumb is now pressed into the skin of perineum, about an inch above the anus, against the angle of the staff, and along it the point of the knife (which is to be held with the flat surface of the blade horizontal) is guided into the groove of the staff. The knife is now pushed straight along the groove till it is stopped by the end of the staff—and if it be of the proper

breadth, is to be again drawn straight back till the operator judges it has left the prostate gland. It is then to be turned with the edge directed obliquely downwards and outwards, and in further drawing it out a free incision is to be made in the superficial structures—similar to that made in the first incision for the lateral operation. The advantage claimed for the operation is the facility with which a knife can be safely pushed into the bladder along a groove in a straight instrument, as compared with a curved staff, which the knife is more liable to escape from—and thus make a false incision—and the experience of those who use it, seems to warrant the anticipations of its author. It is certainly a most ingenious device, and one arrived at not by chance, but by a series of calculations and experiments, which themselves bear evidence of great originality of mind.

The influence of Dr. Andrew Buchanan's researches and teachings on physiology cannot be better described than in the following extract from the address with which Professor M'Kendrick, his successor in the University, closed his summer session:—

"I cannot close this course of instruction without referring to the loss we have sustained by the death of Dr. Andrew Buchanan, who occupied this chair for the long period of thirty-seven years, and it may not be considered inappropriate if I briefly refer to some of the more important contributions made by him to physiological science. Dr. Buchanan was a man of wide culture, and all his writings bear the impress of a powerful mind. He was a clear and vigorous thinker, who worked out any experimental problem on which he was engaged according to strict scientific methods. He was careful and exact in stating the facts, and he was fond of giving his conclusions in the form of propositions or theorems. This habit of mind is well illustrated in elaborate papers in which he attempts to account for the predominance of the right hand over the left, and I cannot refer you to a better example of scientific reasoning than his paper on that subject read before the Philosophical Society of Glasgow on 12th March, 1862. In this paper he attempts to show that the greater development of the muscles of the right side is due to the more frequent use made of them; and that this more frequent use, although in part proceeding from their greater development, is originally altogether independent of the condition of the muscles, and due to a mechanical cause inherent in the constitution of the human frame—the position of the centre of gravity to the right of the mesial plane, and the further

inclination of it backwards, and to the right on deep inspiration. Dr. Buchanan's work on the forces which carry on the circulation of the blood is an elaborate attempt to elucidate the physical problems of the circulation; and if we grant the accuracy of his data, the conclusions are fair and reasonable. As an exponent, however, of what may be termed the older physiology, Dr. Buchanan in this work adopted measurements which can now be shown to be inaccurate, and thus rendered the conclusions unreliable. Still, in this little book you will find many valuable suggestions, and it is an excellent example of an attempt to explain physiological phenomena on mechanical principles. It also shows Dr. Buchanan's aptitude for giving expression to his opinions in mathematical form; indeed, in reading his works, nothing has struck me more forcibly than the many examples given of this quality of his mind. Whilst it cannot be said that in this work he established any new principles now generally adopted by physiologists, he brought into greater prominence the views held by some of the earlier physiologists as to the influence of the respiratory movements on the circulation, and in this respect he did good service to physiological science. Professor Buchanan's name, however, in the history of physiology, will be chiefly associated with important discoveries made by him regarding the coagulation of the blood. The older view was that fibrine, which forms the basis of the clot, had a spontaneous tendency to coagulate, and that this spontaneous coagulability was the characteristic property of fibrin, by which it was distinguished from albumen and caseine. Dr. Buchanan was not satisfied with this apparent explanation; and in particular, he was dissatisfied with the use of the word "spontaneous," inasmuch as nothing, in his opinion, occurred spontaneously, but everything was the result of causes which ought to be investigated. This led him to study the phenomena of coagulation in various fluids, and he showed that fibrine has not the least tendency to deposit itself spontaneously in the form of coagulum, that, like albumen and caseine, fibrine often coagulates under the influence of suitable re-agents, and that the blood and most other liquids of the body which appear to coagulate spontaneously, only do so in consequence of their containing at once fibrine and substances capable of reacting upon it, and so occasioning coagulation. These views he published so long ago as 1831; but although he again announced them, with fresh illustrations, in 1845, many years passed before they attracted the notice of physiologists. By and bye, however, certain Continental physiologists, and in

particular, Schmidt of Dorpat, investigated the subject, arrived at many of Dr. Buchanan's results, and published their accounts, apparently ignorant of much that the Scotch physiologist had done; and it is only within the last few years that Dr. Buchanan's early paper has been re-read and studied with the result of showing that he really foreshadowed much of our present knowledge of this difficult question. He established that fibrine does not coagulate spontaneously, and that it is produced by the action of certain substances in the blood, and notably by a material which he said existed in washed clot. Later workers, as you know, have been able to separate these substances from blood serum, and other fluids; and we are now familiar with the factors that form fibrine. It is interesting to notice also that Dr. Buchanan held, even at the earliest period of his investigations, that the colourless blood corpuscles played an important part in the production of fibrine, a view borne out by the most recent investigations. I may mention that my old master, the late Hughes Bennett, of Edinburgh, was well acquainted with Buchanan's researches, and attached great importance to them; and that credit is also due to Dr. Michael Foster, of Cambridge, and to Dr. Arthur Gamgee, of Manchester, for having rescued these researches from oblivion. Those early papers of Dr. Buchanan's are full of suggestion, and like all true work, they stand the test of time, and of the most elaborate investigation with improved scientific appliances. Time will not permit me to refer to all that Dr. Buchanan wrote. Here and there, in the pages of the Proceedings of the Philosophical Society of Glasgow, in which he always took a deep interest, you will find elaborate and interesting papers. Many of these papers have been forgotten, and I think it would be a graceful thing to collect them in a separate form, not so much on account of intrinsic worth, for science marches rapidly, and the speculations of one generation are often of little value in the next, but as a memorial of one of the best thinkers Glasgow has produced. For example, it is not generally known that he wrote papers on the physiology of the nervous system before the days of Marshall Hall, in which he lays down propositions remarkably like those of the English physiologist; that he wrote at an early period on the phenomena of animal magnetism, and successfully attempted to show that they can receive a physiological explanation; that he made important contributions to the physiology and pathology of cholera; and that he was in 1824 one of the founders of the *Glasgow Medical Journal*. In all of these papers he showed the spirit of the genuine worker in

science. Nor did his enthusiasm flag when he became old. Only two years ago he came to my laboratory full of interest in an investigation on the rhythm of the heart, and, although I think he was entirely wrong in his views on that subject, no one could fail in admiring the enthusiasm of the old philosopher. He worked with his own hands with the ardour of a youthful investigator, and he was much interested in the scientific appliances now employed in experimental physiology. A remarkable man, gentlemen, has passed away from among us. Full of years, he now rests from his labours. He did good work in his day; some of it will soon be forgotten; but not a little will remain as an enduring memorial of his sagacity and scientific spirit. He was a fine example of the cultured physiologist of the old school, full of a kind of lore now rarely met with, and the loss of which, I think, makes the world the poorer. It is a great satisfaction to me that, as his successor, I enjoyed the privilege of his friendship. He took an interest in what we were doing here, and I believe he was gratified with the development of our school. I feel sure his memory will be cherished in the University where he laboured so long, and by thousands of his pupils now in the ranks of the medical profession."

During last winter, his health was sometimes so precarious as to cause anxiety to his friends, but in the spring he rallied, and was able to go about and see his friends, and as summer drew on he felt a desire for a little change to the country. Accordingly, along with his wife he went to Dunkeld in the end of June, and was much in his usual, when, in a somewhat sudden manner, he expired on the 9th July.

REVIEWS.

The Prevention of Stricture and of Prostatic Obstruction. By REGINALD HARRISON, F.R.C.S., Surgeon to the Royal Infirmary, Member of Council Liverpool University College, and one of the Professors of Clinical Surgery in its Medical Faculty. London: J. & A. Churchill. 1882.

IN the form of a small pamphlet Mr. Harrison has ably discussed the treatment of gleet and the prevention of prostatic obstruction. With regard to the former he points out, like Sir Henry Thompson, the utter uselessness of trying to reach

the more distant parts of the urethra by means of an injection with the ordinarily employed glass syringe. The parts of the urethra principally affected are the membranous and commencing spongy portions: when these are properly reached and treated with suitable injections, as Mr. Harrison points out they may be, by the use of a catheter, about 6 inches long and No. 6 in size, the otherwise obstinate and troublesome affection can be completely cured, and thereby the subsequent formation of stricture prevented, of which gleet, as he rightly observes, is probably the constant precursor.

On the prevention of obstruction from hypertrophy of the prostate, the author advocates the earliest use of catheters with the object of preventing the enlargement of the central lobe or any portion of the gland which tends directly to project into the urethra. The treatment of dilatation with catheters or prostatic bougies is also advocated when the prostate has already become enlarged. On the advantage of this treatment however some doubt must be thrown. It is a method which has been tried by many surgeons who, like Sir Henry Thompson, have abandoned it from the great irritation it frequently causes; but it is right to observe that Mr. Harrison attributes many of these cases of extreme irritability to the presence of crystals of uric acid in the urine, upon the removal of which, by suitable medicinal treatment, the process of dilatation can be proceeded with without any untoward result.

Clinical Lectures on Diseases of the Urinary Organs. By SIR HENRY THOMPSON, Surgeon-Extraordinary to His Majesty the King of the Belgians, Emeritus Professor of Clinical Surgery, and Consulting Surgeon to University College Hospital. (Students' Edition.) London: J. & A. Churchill. 1882.

THE sixth edition of these valuable lectures possesses an additional interest from the form in which it appears and the alterations which have been introduced, more especially with regard to the treatment of vesical calculus. In the two or three lectures devoted to the discussion of lithotripsy, Sir Henry Thompson, from the success which has attended his recent adoption of Bigelow's method, forcibly advocates it in preference to the old method of removal at several sittings and to the operation of lithotomy in all cases, except in children and very large stones in adults. His statistics go far to support his own teaching: thus, during a term of two years

112 consecutive cases of elderly men were lithotritised by extraction at a single sitting. Of this number only three died, whereas with extraction at several sittings the rate of mortality was $7\frac{1}{2}$ per cent. Thus the reduction has been to less than half the original number of fatal cases, and the pain and inconvenience to patients proportionately diminished.

While too much cannot be said for that portion of the work which consists strictly of clinical lectures, it is somewhat to be regretted that Lecture XIX so-called, should have been introduced into a book which is intended chiefly for students, consisting as it does of the substance of an address delivered at Birmingham nearly ten years ago, and containing much that is directly opposed to the teaching in previous lectures. This is likely to prove confusing and perplexing to the usually not-too-deeply-engrafted knowledge of a beginner, and though valuable from an historical point of view, might have been inserted as a separate chapter at the end of the book, thus dissociating it from the prominent place it now occupies amidst the teaching of the present day.

As to the form in which this sixth edition appears, Sir Henry Thompson has ventured on a new line of professional publication, adopting an already successful popular method of placing, within the hands of the impecunious, standard works at considerably reduced prices. It is saying everything in its favour to hope that his good example will be followed, and students thus benefitted by the acquisition of what but too frequently has been beyond their usually limited means. The present work presents all that can be desired: a good type on good paper, and efficiently illustrated.

A Study of the Tumours of the Bladder. By ALEX. W. STEIN, M.D. New York: Wm. Wood & Co. 1882.

THIS monograph is a very good specimen of an extremely useful kind of work. The author, having had his attention arrested by the occurrence of several cases of tumour of the bladder in his own practice, has made an exhaustive investigation into the literature of the subject from the year 1747 to the year 1881, and has collected sixty cases of undoubted primary tumour, besides numerous references to the subject in works on more general subjects. The outcome of this extensive reading is this book of 94 pages, which is the more valuable because it is not written to advocate any special views, but to record as clearly and precisely as possible the

general opinion of the profession in Europe and America at this time.

Prefixed to the volume there is a full and valuable bibliography, which would, however, probably be less cumbersome if an alphabetical rather than a chronological arrangement had been adopted.

The tumours of the bladder which have been met with up to this time he classifies as follows:—

Benign growths.—Papillomata, or villous growths; myxomata, or mucous polypi; fibromata, or fibrous polypi; myomata; osteomata.

Malignant growths.—Carcinomata, in the three forms, with epithelioma in a villous form; and sarcomata, round-celled, spindle-celled, and villous.

By far the most common form of tumour of the bladder is the villous, and, according to the author, the great majority of these are papillomata, strictly benign growths; while the malignant forms—epithelial and round-celled sarcoma—are comparatively rare. This opinion, which is opposed to that propounded by Rokitsansky and adopted by many authorities, is based upon the symptoms and pathological appearances. He says—"In structure they do not partake of the character of malignant tumours. In their origin, and in the manner of their development, they are innocent growths. The course and duration of the complaint is not in accordance with that generally observed in malignant disease. They are strictly local, do not invade adjacent tissues, there is no glandular involvement, and there are no secondary deposits occasioned in other organs of the body. They do not cause death from malignant cachexia, but from hæmorrhage or from the consequences of mechanical obstruction to the outflow of urine." (P. 3). The description of the histological appearances is taken from a paper by Dr. R. S. Hudson, in *Dublin Medical Journal*, June 1879. "Thin-walled capillary vessels of irregular diameter may be seen coursing through the growth, the whole surface being covered with a columnar or polygonal epithelium. The epithelium is, however, *on* the surface, *homologous*, not *within* the subjacent connective tissue, *heterologous*, which is characteristic of epitheliomatous growths." (P. 7.) "Villous cancer has a deeper origin in the connective tissue, constituting a thickening of the vesical walls, or forming a tumour which may be recognised by external palpation. Its villi have an abundant epithelial investment by which the interior of its structure is obscured or rendered invisible; but most prominently is its malignant nature

manifest by the infiltration of its base and villi with closely packed epithelial cells." (P. 14.) The plates demonstrate the microscopic appearances very well. In villous sarcoma "the growth . . . rested on a hardened base made up of round cells." (P. 34.)

Symptomatology and diagnosis are concisely but clearly discussed. The nature and comparative value in the different forms of tumour, of hæmorrhage, irritability, pain, and retention or incontinence of urine are well stated, and the methods of examination are fully described.

The section on treatment is probably the best part of the book. The palliative treatment recommended includes the free use of anodynes internally to allay pain and irritation and diminish spasm, and so check the tendency to hæmorrhage; rest in bed, with pelvis raised, and keeping the bowels free to obviate any tendency to determination of blood towards the pelvic organs; and the topical use of cold and astringents to check hæmorrhage. In the internal administration of astringents he does not place much confidence. For irrigating the bladder he recommends Zeissl's method by hydrostatic pressure, in which the use of a catheter is dispensed with, so that there is no risk of harm being done by instrumentation, especially in the hands of the patient himself. A fountain syringe or rubber bag syringe is used. "The patient is placed in the recumbent posture, with the nates raised; the penis is brought up against the abdominal wall without undue stretching; the nozzle of the irrigator is introduced into the urethra and there held in such a manner that regurgitation of fluid from the meatus cannot take place; the stop-cock is opened and the urethra becomes distended; the sphincters yield, and the fluid enters the bladder." (P. 92.) We do not see why the apparatus should not be simplified by using a funnel and india-rubber tube, instead of a syringe and stop-cock as in the method now often used for irrigation of the stomach, the pressure being varied by changing the level at which the funnel is held above the patient. The question of operative treatment is discussed in considerable detail, and thirty-four operations—twenty-three on females and eleven on males—performed by various surgeons from the time of Warner's case in 1750, are described. The book ends with the following conclusions on the subject:—

"1st. In a few remarkable instances in the case of women, apparent recovery seems to have resulted from spontaneous expulsion of growths from the bladder. But in general it may be said that tumours of the bladder, if uninterfered

with, are inevitably fatal. And, although they may exist for several years without creating much distress, a fatal termination almost invariably ensues in a few weeks or months from the outbreak of active symptoms.

"2nd. Death results most frequently from hæmorrhage, and from the effects of mechanical obstruction to the outflow of urine. Hence the indication would be to remove the growth while the general condition of the patient is yet favourable for an operation; before the subject has become exhausted from loss of blood, or the kidneys and bladder have become so much diseased as to make recovery impossible, even in the event of the successful extirpation of the growth.

"3rd. In women, because of the accessibility of the bladder to direct exploration, there is no use for temporising, and the surgeon should lose no time in acquiring an exact knowledge as to the existence, nature, &c., of the tumour, and, if practicable, attempt its removal as early as possible.

"4th. The results thus far obtained by surgical interference, in the cases of women, could scarcely be more satisfactory, and, excepting one instance where the bladder was accidentally perforated, it does not appear that the fatal termination was precipitated by the operation in any of the cases.

"5th. In the male the propriety of operative interference must necessarily always be a more serious question, because of the occasional uncertainty of diagnosis, and because of the gravity of the undertaking necessary for the removal of the growth. Nevertheless, the results thus far attained by operation are most encouraging, and in every way justify a repetition of the same.

"6th. From a number of autopsies made, we learn that the successful operations might have been multiplied, first, in those cases in which no operation was attempted, although the growths could have been easily removed and with apparently every prospect of success; and, again, in those in which the operation was too long deferred, and which, it is reasonable to assume, would have terminated successfully had the same been undertaken at an earlier period.

"7th. Given a positive diagnosis of tumour, the absence of severe secondary symptoms should be no excuse for deferring the operation. On the contrary, the earlier the growth is removed the better the prospects of complete recovery. With a healthy bladder and kidney, cystotomy is not so dangerous an operation as to warrant any delay.

"8th. Evidence strongly pointing to the existence of a tumour with severe catarrhal symptoms, or with spasm of

the bladder and much suffering, will often justify an operation ; for, if a tumour is found, its extirpation will afford the only chance for life ; and if no growth exists, or the bladder is occupied by an irremovable cancer, the cystotomy may at least afford temporary relief from suffering."

The Pharmacopœia of the London Hospital. London :
J. & A. Churchill. 1882.

THIS statement of the materia medica, formulæ, diet tables, &c., in use in the London hospital, shows how thoroughly well organised that institution must be. The list of materia medica contains, naturally, many drugs not found in the British Pharmacopœia, and the formulæ, suitable for adults and for children, are numerous and varied. These latter will be of special value to the practitioner, as they represent, as a rule, the best mode of combining, prescribing, and dispensing the remedies dealt with. In an appendix are instructions for case taking, a method of preparing and using Fehling's solution, directions for the making of preserving and staining solutions for animal substances, tables of poisons and their antidotes, &c., &c. ; none of these presents anything new or calls for special remark.

Elements of Pharmacy, Materia Medica, and Therapeutics.
By WILLIAM WHITLA, M.D. London : Henry Renshaw.
1882.

WE have very little doubt that this work will soon become popular with students, on account mainly of its compactness and novel arrangement. It represents an attempt on the part of the author to combine in one small handbook all that the student need know on the subjects announced in its title, and to save the student the trouble of "sifting out of two or more of the larger manuals" such information as he may stand in need of. Viewed in this light, it may be said to fulfil its purpose tolerably well ; on any higher ground it is not a work to be much commended.

This manual is somewhat unusual in its arrangement. It is divided into five parts. The first of these is devoted to pharmacy, to our mind much the best part of the book, the only part indeed on account of which the volume is likely to be prized by any one. Here we have clearly and shortly set forth the best methods of procedure to adopt in the preparation

of pills, powders, mixtures, &c. Throughout this whole section and in Part IV, dealing with methods of administration, prescribing, &c., numberless little practical hints are given, of the greatest value both to prescriber and to dispenser, hints regarding small matters of detail on which the success of a prescription or a plan of treatment very often depends. It is surely a slip, however, to say that in measuring liquids the measure glass should be held *horizontally*; the glass would probably retain its contents better if it were held as nearly as possible perpendicularly. Official pharmacy, a term which includes a description of the processes directed to be employed in the preparation of the various pharmacopœial remedies, is then discussed, and is followed by a systematic view of the pharmacopœial compounds, arranged in tabular form. Then come *ten* blank pages, for memoranda.

Part II deals in a very short and unsatisfactory way with the *materia medica*, arranged, not according to natural order or therapeutical or chemical affinities, but simply alphabetically: an essentially bad arrangement, good enough by way of a "cram," but not one which enables the student to take a scientific grasp of his subject. The descriptions given of the various articles of the *materia medica* are so brief that they cannot possibly prove of much service to a student desirous of identifying any drug. Several notable errors occur in this section. In the formulæ for the crystalline substances, the water of crystallisation is omitted in nearly every instance; for instance, the crystals of the sulphate of iron, and the *ferri sulphas exsiccata*, are represented by precisely the same chemical formula. This would certainly lead the student astray. On p. 114, we are informed that nitrate of silver is sometimes dissolved in *spirit of nitre*: now, this term spirit of nitre is an old name for nitric acid, just as *spirit of salt* is an old name for hydrochloric acid, and certainly no one dreams of prescribing nitrate of silver in solution in nitric acid. Probably spirit of nitrous ether is meant. "De Valangin's solution" is given as a synonym of the liquor arsenici hydrochloricus; but the celebrated *solutio solventis mineralis* of Dr. De Valangin, the liq. arsenici chloridi of the old London pharmacopœia, is less than half the strength of the present pharmacopœial solution. This part ends with a short section, extending to seven pages, devoted to non-official remedies, which, to distinguish it readily from the rest of the work, is printed in red ink,—a distinct offence against good taste, for not only is it unpleasant to look at, but it is more difficult to read, especially by artificial light, than if it had

been made uniform with the rest of the printed matter. Nor is this section less open to objection in other respects. Under the heading "Chrysophanic Acid," the author states, with the view we presume of showing that the action of the drug in psoriasis is purely local, that he had repeatedly treated this affection by applying the ointment to one side of the body only, and had found always that while on that side the patches rapidly improved, those on the other side, treated with lard or left untouched, remained unaltered. This is exactly the reverse of recent experience in Glasgow, where it has been shown that the disease may be cured, not only by unilateral application, but also by internal administration. Salicylic acid is said to be "best given with a little glycerine in distilled water;" we find that it is best taken in effervescence with citrate of magnesia. It is not our experience also that the salicylate of soda is less certain in its action than salicylic acid. The action of pilocarpine (or of jaborandi) is not so certain and invariable as our author's description would lead us to expect. This drug sometimes causes very little diaphoresis, occasionally none at all; we have even seen it produce, in a case of advanced kidney affection, no effect save a little salivation and obstinate and painful vomiting. The *oleum santalis flavæ* is stated here to be "the essential oil of the red sandal wood." This is an awkward error, for the wood mentioned, derived from the *pterocarpus santalinus*, a leguminous tree, yields no essential oil, but is used in the pharmacopœia solely as a colouring agent; the oil in question is obtained from the *santalum album*, and possibly one or two other allied species of the natural order *santalaceæ*. On p. 244 we are informed that "Thymol is a crystalline principle extracted from the oil of Thyme." It is true that the *Thymus vulgaris*, when submitted to fractional distillation, yields thymol and some other bodies, but this is a process far too expensive to be remunerative, nearly all the thymol found in commerce being obtained from the Ajowan fruit, the fruit of the *carum ajowan*, an Indian tree.

In Part III the therapeutic uses of each drug are considered, the various substances being again taken up in alphabetical order. This section is on the whole satisfactory, though it suffers somewhat from the condensation inevitable in a handbook designed to embrace such a wide field. Far too little space is devoted, however, to the physiological action of drugs, on which so much of the solid advance made by therapeutical science of late years has been based. A strikingly practical character, likely to add greatly to the student's interest, is

given to this part by the free introduction of formulæ for approved mixtures, pills, &c.

In Part IV, the administration of medicines, including posology, the art of prescribing, &c., is discussed. Here much information of the useful type is given, one of the novelties presented being the insertion of *fac simile* plates of real prescriptions. All of these prescriptions are well written, and present none of the traditional difficulties to the druggist who has to decipher them.

The last part consists simply of an enumeration of the pharmacopœial reactions and tests.

On the whole, then, we believe that this work is one which excels in the parts devoted to pharmacy and to the methods of administering medicines; but as regards "materia medica" especially, and also to some extent therapeutics, it is not a book which we can, without considerable qualification, commend to the student.

The Transactions of the American Medical Association.
Instituted 1847. Vol. xxxii. Philadelphia, 1881.

THIS volume of Transactions contains, as usual, several papers of considerable interest in the various departments of medicine. The proposal to stop this form of publication and to replace it by the issue of a weekly journal—after the manner of the *British Medical Journal*—seems to be gaining favour with the members. The present volume contains an index to all the "Biographical notices contained in the Necrological reports of the thirty-two volumes of the American Medical Association," and thus places at our disposal an important means of reference as to the life and work of the deceased members of the profession in America.

M E D I C A L I T E M S .

UNDER THE DIRECTION OF
ALEX. NAPIER, M.D.

Quinine Amaurosis.—Five cases of amaurosis, due to the administration of overdoses of quinine, are quoted in the *Cbl. f. d. Med. Wiss.*, 17th June, 1882. The first of these is recorded

by Dr. E. Grüning, in *Arch. f. Augenheilk.*, xi, 145. The patient, a woman suffering from endometritis after abortion, took 80 grains of quinine within thirty hours, when she was seized with a convulsive attack, after the subsidence of which she was perfectly blind and deaf. In twenty-four hours the hearing returned. The pupils remained fully dilated, but the power of accommodative contraction was still present. Refractive media normal. Papilla extremely pale, and retinal vessels, both arteries and veins, so narrow as to be scarcely visible. At the macula lutea of both eyes was a cherry red patch, surrounded by a greyish-blue opaque zone. The latter disappeared in ten days, while the retinal vessels remained unchanged. After other fourteen days sensibility to light had returned to a slight degree. Sight improved gradually, but complete colour blindness remained. In three months sight was again perfect, but a concentric limitation of the field of vision was noticed. In other three months the colour sense was also almost completely restored, but the limitation of the visual field persisted.

Dr. C. E. Michel records an exactly similar case in the same number of the same periodical. His patient, who suffered from pneumonia, took 225 grains of quinine within five days, after which complete blindness and deafness supervened. The same condition of pupil, &c., as in last case was observed. At the end of a year the sight was nearly normal, but there was a concentric limitation of the field of vision; no visible change in the fundus of the eye remained.

Dr. H. Knapp records in the same journal three cases of blindness and deafness from large doses of quinine. In all of them the deafness soon passed off, while sight returned very slowly; there remained in all the same concentric limitation of the field of vision. In all the condition of the optic nerve and retinal vessels was as already described above. Colour sense and sensibility to light returned gradually, while the pupils slowly regained their natural mobility.

In cases of blindness from overdoses of quinine the prognosis is thus on the whole good, as in all the above instances sight was restored, though not in all respects completely.

Treatment must be directed towards keeping up the general strength. The horizontal position seems often to aid in the cure of the affection. Inhalations of nitrite of amyl had no influence on the patients' condition; neither had the use of electricity, strychnia, and other agents. Residence and exercise in a salubrious climate may be recommended as a rational means of cure.

On the Treatment of Fresh Wounds. By JOHN DUNCAN, M.A., F.R.C.S.E., Surgeon to the Royal Infirmary, Edinburgh.—The ideal surgical dressing is one which requires no interference until the wound is healed. Mr. Duncan has recently made some experiments with salicylised wool, in order to, if possible, attain this end.

The method he has pursued is as follows:—

The wound is carefully and accurately stitched after every bleeding point is secured; if the wound is large, an interval of an inch or less is left between two of the stitches at some convenient part, and if from the nature of the wound firm compression throughout is uncertain, a few of the catgut ligatures are left long and brought out at the interval, or an india-rubber drainage tube is inserted. In most cases it is completely closed. A piece of dextrinized oiled silk is applied. Mr. Lister's object in this application is to protect from carbolic irritation, but were it not that it also prevents adhesion of the dressings, Mr. Duncan does not consider it of importance when the edges of a wound are carefully approximated.

One layer of moistened gauze is the next covering, and over it a thick padding of dry salicylic wool, firmly compressed by a gauze bandage. The layer of gauze facilitates the ultimate removal of the dressings.

The dressing is allowed to remain applied, in many cases where no drainage tube is used, for three weeks; if a tube is inserted it is either dispensed with the day after the operation, or at the end of the third or fourth day. The following are the results obtained—

1. *With Perfect Healing.*—3 herniotomies; 3 amputations at the ankle; 2 amputations in forearm; 1 amputation at wrist; 1 amputation of upper arm; 3 excisions of mamma; 1 excision of elbow.

2. *With almost Perfect Healing.*—1 amputation of thigh; 1 excision of knee; 1 amputation of leg; 1 excision of mamma.

3. *In which Failure occurred and the Dressing had to be changed.*—1 strangulated hernia; 1 excision of wrist; 2 amputation of ankle.

The deductions drawn by Mr. Duncan from his observations are:—

1. That when we succeed in preventing sepsis at the operation, we can by this method rely on singularly simple and favourable progress, with total absence of fever, with freedom from pain, and with great rapidity of healing.

2. That should sepsis lead to inflammatory action, it is necessary temporarily to abandon the dressing.

3. That even in septic cases it is often advantageous to continue it throughout if there be no inflammation, or recur to it when it has subsided, because it is a good recipient for discharge, because it tends to diminish the amount of pus, and because it aids in keeping the part at rest.

4. That in fresh wounds so situated that they can be compressed equably, the introduction of materials to secure drainage is usually unnecessary, and that if they are employed they should be removed in twenty-four hours.

5. That sepsis is less apt to occur by this method, as change of dressing is avoided.—*Edin. Med. Journal.* July, 1882.—J. C. R.

Iodoform in Chronic Pulmonary Affections.—Professor Chiarmelli, encouraged by the happy results obtained by Professor Semmola with iodoform in the treatment of chronic affections of the bronchi, has experimented with this medicine during four consecutive years at the Hospital for Incurables, in many affections of the respiratory passages.

In phthisis, even at an advanced period of the disease with the presence of cavities, iodoform has given the author excellent results. In each case it diminished expectoration, and exercised a favourable influence upon the febrile manifestations. "Iodoform," he says, "diminishes the fever and affects the expectoration, which it not only diminishes in quantity, but alters in character, preventing the putrefaction of its albuminoid elements. I am also convinced that the contents of the cavities in the lung exercise a powerful influence upon the production of hectic fever." In recommending iodoform in pulmonary phthisis, the author does not assert it to be a specific, but he claims that it arrests the march of this cruel malady and prolongs the life of the sufferer.

He also holds that in cases where caseous pneumonia is commencing, iodoform administered for a time proves efficacious in arresting the progress of the disease. With many individuals affected with chronic bronchitis and emphysema, it renders great service.

The formula which is employed, is as follows :—

Iodoform,.....	0·10 cent.
Powdered lycopodium,.....	0·50 "
Ext. of gentian,.....	q. s. "
Make into 10 pilules. Take 3 to 5 in the day.	

If the dose is increased gastric disorders supervene, and it is

better to continue the above dose for a considerable time.—*Giorn. di Clin. e Terapia et Gazz. Med. Ital., Prov. Ven., 1882.*
—*Lyon Médical.* March 1882.—J. A. A.

Orthopnoea.—In the June number of the *Practitioner*, 1881, Dr. H. Cook, of Bombay, endeavoured to explain the pathological condition which is the chief factor in those cases of orthopnoea which are not dependent on mechanical causes, and by the aid of the sphygmograph he has shown it to be a loss of arterial tonus which takes place in the recumbent posture as compared with the upright position.

In the issue of the same journal for April, 1882, the same author shows that this change in arterial tonus is not due to posture simply, but to the exertion of muscular force which is necessary in order to the maintenance of the erect posture. He showed that increase in arterial tonus is associated with increased muscular exertion, by taking a tracing of the radial pulse of a healthy man while the body was supported on three stools, and comparing it with the tracing obtained from the same person when the central stool was removed, so that the body was supported by muscular exertion, the shoulders being on one stool and the feet on the other. The author attempts no explanation of the apparent connection between the exertion of muscular force and the increased arterial tonus as shown in the sphygmographic tracings, but suggests, as a matter for investigation, that it may be the result of a direct or reflected influence from the motor centres to the vaso-motor centres.

Treatment of Coryza by Sulphate of Atropine.—Atropine exercises upon the mucous glands the same influence that it does on other glands. It diminishes their secretion, and in a very short time dries up the mucous membrane of the nasal cavity.

In affections of the nasal passages characterised by fulness, with increased vascularity and hyper-secretion, a pill of half a milligramme of sulphate of atropine in a very short time exercises a potent and specific effect. In about a quarter of an hour the sneezing ceases, the nasal secretion abates, the swelling of the mucous membrane rapidly diminishes, and respiration is much relieved.

Usually a single dose suffices, but occasionally the medicine must be repeated.—(*Abeille Méd. et Union Méd. du Nord-Est*, June, 1882.) *Lyon Médical.* 25th June, 1882.—J. A. A.

Powder for Powdering Infants.—Instead of lycopodium, starch, &c., Dr. Klamann, in the *Répertoire de Ph. et Journ. de Chimie* for April last, recommends the following mixture as giving better results in eczema, erythema, &c., &c., in infants, while it is completely inoffensive:—

Calcined magnesia, . . .	5 grammes.
Powdered Venetian chalk, . . .	25 „
Salicylic acid, . . .	0.2 „

—*Lyon Médical.* 4th June, 1882.—J. A. A.

Phosphates in Phthisis.—M. Dujardin-Beaumetz has found that the following method of administering the phosphates renders great aid to healthy nutrition:—

Phosphate of soda, . . .	6 grammes.
Phosphate of potash, . . .	3 „
Burgundy, . . .	200 „
Syrup of orange peel, . . .	60 „

A wine glassful is taken with each meal, and it may be combined with the administration of quinine.—(*J. de Méd. de Bourdeaux*, May, 1882.) *Lyon Méd.* June, 1882.—J. A. A.

Books, Pamphlets, &c., Received.

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L'Année Médicale, 1881. Résumé des progrès réalisés dans les sciences médicales. Publié sous la direction du Dr. Bournévillle. Paris: E. Plon et Cie. 1882.

The Medical Digest, or Busy Practitioner's Vade-Mecum; being a means of readily acquiring information upon the principal contributions to medical science during the last thirty-five years. By Richard Neale, M.D. Second Edition. London: Smith & Co. 1882.

Annual Report of the Board of Regents of the Smithsonian Institution, showing the Operations, Expenditures, and Condition of the Institution for the year 1880. Washington: Government Printing Office. 1881.

Manual for the Physiological Laboratory. By Vincent Harris, M.D., and D'Arcy Power, M.A., M.R.C.S. Second Edition. With Forty Illustrations. London: Baillière, Tindall & Cox. 1882.

- On Genital Renovation by Kolpostenotomy and Kolpoepectasis in Urinary and Fœcal Fistules. By Nathan Bozeman, M.D., New York.
- Ringworm: its Diagnosis and Treatment. By Allen Smith, M.B., Lond. Second Edition. Rewritten and enlarged. With Illustrations. London: H. K. Lewis. 1882.
- University College Course of Practical Exercises in Physiology. By J. Burdon Sanderson, M.D. London: H. K. Lewis. 1882.
- A Plea for Early Ovariectomy. By G. Granville Bantock, M.D. London: H. K. Lewis. 1882.
- Essentials of the Principles and Practice of Medicine: a Handbook for Students and Practitioners. By H. Hartshorne, A.M., M.D. Fifth Edition. With 144 Illustrations. London: Smith, Elder & Co. 1881.
- Nitro-glycerine as a Remedy for Angina Pectoris. By William Murrell, M.D. London: H. K. Lewis. 1882.
- A Handbook of Therapeutics. By Sydney Ringer, M.D. Ninth Edition. London: H. K. Lewis. 1882.
- On Diet and Regimen in Sickness and Health. By Horace Dobell, M.D. Seventh Edition. London: H. K. Lewis. 1882.

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ORIGINAL ARTICLES.

TWO CASES OF VENTRICULAR HYDROCEPHALUS:
ONE DUE TO PRESSURE ON THE SINUSES BY
A TUMOUR IN THE CEREBELLUM, THE OTHER
TO THROMBOSIS OF GALEN'S VEIN.

By DAVID NEWMAN, M.B., C.M.,
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THE two cases which we are about to describe resemble one another in very few respects, and for this reason we have placed them together, in order to illustrate the difference between the symptoms and pathological appearances in a case of pure ventricular hydrocephalus from venous obstruction, and one where the effusion into the ventricles was preceded by a tumour in the cerebellum.

CASE I.—*Summary of Clinical History.*—T. G., æt. 5 years. Previous to October last patient apparently enjoyed perfect health. Symptoms began with lethargy, headache, vertigo, persistent vomiting, and constipation. Was admitted into Dr. Scott Orr's Ward on the 5th of January, 1882, when, in addition to the above symptoms, he was found to be suffering from great muscular weakness, most marked, at first, on the left side, but afterwards becoming general, and succeeded by tonic spasm of groups of muscles. The posterior muscles of the neck were contracted, and the head thrown backwards; the limbs were strongly flexed, and the thumbs drawn across the palms with the fingers closed over them. There were no movements of rotation. Gradual failure of mental faculties, general emaciation, and increase in the size of the head ensued.

Evidence of amblyopia present from the commencement of symptoms, followed within a short time by complete amaurosis, with inertness, and extreme dilatation of the pupils; slight lagophthalmos; no strabismus, exophthalmos, or ptosis.

Well marked cutaneous hyperæsthesia; taste not evidently impaired; voice high pitched, and distressing cries were frequently given vent to, particularly at night; no laryngismus stridulus, nor muscular twitchings observed. One convulsion three months before death, followed by an aggravation of the symptoms, and the formation of a few bullæ on various parts of the body. No external evidence of tubercular, scrofulous, or syphilitic disease. Sphincters paralysed for last six months. Pulse-rhythm undisturbed. Frequency of pulse regular throughout, except during the convulsion; temperature normal; gradual exhaustion, passing, three hours before death, into complete coma, without convulsions. He died on the 4th of August.

Post-mortem Inspection.—Great general emaciation of body; head greatly enlarged (external circumferential measurement, 25 inches.) The bones of the skull are well united, but very thin and smooth; there are numerous ossa triquetra in the lines of the sutures. The dura mater is very tense, non-adherent, of a whitish colour, and slightly thickened at some parts. The vessels and sinuses are almost empty, and do not contain any thrombi. The pia mater is slightly thickened at some points, and the sac of the arachnoid contains a very small quantity of clear straw-coloured fluid. The cerebral convolutions are flattened, and the hemispheres expanded into sacs, with very thin parietes, by the fluid contained in the ventricles. The substance of the brain is anæmic, soft, and highly cedematous. The amount of fluid contained in the ventricles is about twenty ounces. The septum lucidum is stretched, but entire; the optic thalami and corpora striata are cedematous and very soft. The ependyma is thin, smooth, and colourless, and does not show evidence of either recent or old inflammation. The veins of the velum interpositum and choroid plexus, and the vena magna Galeni are empty. One small cyst containing clear fluid is found in the situation of the choroid plexus.

The left lobe of the cerebellum is increased in size by the presence of an irregularly shaped tumour which occupies almost its entire substance, so that the tissue of the cerebellum simply forms a thin covering to the mass contained within. The tumour is of a pale yellow colour, irregularly nodulated in form, tolerably firm, but easily separated from the surrounding brain substance. The tumour presses with considerable

force upon the tentorium, and encroaches upon the space normally occupied by the lower and posterior parts of the cerebrum and the neighbouring sinuses.

There are no miliary tubercles to be seen in any part of the brain or its membranes. Spinal cord normal. The pericardium contains about $1\frac{1}{2}$ oz. of serous fluid; the heart is small and anæmic; no organic disease of heart or vessels. Both lungs are moderately infiltrated by a number of miliary tubercles, but otherwise there are no marked changes to be seen. The liver, spleen, and kidneys may be described as practically normal. The abdominal walls are adherent to the viscera, and the folds of the intestine are united by old adhesions, while here and there small collections of purulent-looking fluid are observed between their coils. There are numerous tubercular ulcers in, but no perforation of, the intestinal walls.

The mesenteric glands are enlarged, caseous, and firmly adherent to the intestine.

CASE II. Summary of Clinical History.—J. L., æt. 55. Until three months before death patient enjoyed perfect health. Symptoms began with vertigo, lassitude, disturbed sleep at night, and drowsiness during the day, but patient was sufficiently well to follow his occupation till six days prior to death, when he suddenly became comatose, and showed evidence first of left hemiplegia, and afterwards of general muscular paralysis. There were no convulsions or spasmodic movements; but slight convergent strabismus was noticed with dilatation of pupils. Sphincters unaffected. Slight recovery of mental powers two days before death, succeeded by sudden relapse.

Post-mortem Inspection.—External appearance presents nothing remarkable. *Head.*—The bones of the head are firmly united, and there is no evident increase in size, nor are the eyeballs protruded. The *dura mater* is slightly thickened and unusually tense. The superior longitudinal sinus is empty. The Pacchionian bodies are enlarged, and project slightly into the cavity of the sinus. There are no morbid changes, fatty, atheromatous, or aneurismal, in the vessels at the base of the brain, except perhaps a suspicious yellow spot in the artery of the fissure of Sylvius, on the left side. The cerebral convolutions are flattened, soft, and cedematous, but there is no fluid collected in the arachnoid. The lateral ventricles are considerably dilated by an accumulation of about $4\frac{1}{2}$ ounces of clear, straw coloured fluid in each of them. The structures forming the floor of the lateral ventricles are soft, flattened, and, cedematous; the choroid plexus is unusually

vascular, and contains a few small cysts, and, tracing the vessels of the plexus backwards, a small whitish, moderately firm, and adherent clot is found in the vein of Galen, close to its union with the inferior longitudinal and straight sinuses; the thrombus does not pass beyond the opening of Galen's vein; and it may be observed further, that in none of the other vessels or sinuses are any clots seen. Spinal cord normal.

Both lungs are cedematous, and there is slight emphysema of their edges; otherwise nothing worthy of note.

There is an increase in the fat around the pericardium, and the cavity contains about one ounce of serous fluid. The right ventricle is slightly dilated, its walls are unusually thin, a few vegetations are observed on the borders of the mitral valve, and its orifice is slightly constricted. The aortic valves may be said to be normal, but on the walls of the aorta, close to the valves, several small atheromatous patches are seen. The abdominal aorta in some parts shows considerable fatty and calcareous patches.

Abdominal organs normal.

Chemical and microscopic examination of fluid from ventricles of brain.

Fluid of a clear straw colour, sp. gr. 1007, contains 501 per cent of solid matter, and on microscopic examination of the sediment a few leucocytes, and one or two crystals of cholesterine and margarine are seen.

Analysis of Fluid.

Water,.....	994.99
Solids—	
Albuminous matter,.....	.91
Fatty matter,.....	.26
Alcoholic extract,.....	.41
* Other organic matter (mostly alcapton),	.60
Inorganic salts,.....	2.83
	<hr/>
	5.01
	<hr/>
	1000.00

* The estimation of alcapton is only approximately correct: the figure is as near as we can place it by the means at our disposal. Alcapton is an amorphous substance closely resembling grape sugar. Bödeker found this substance in urine in certain diseases, and also as a normal constituent in cerebro-spinal fluid. It is a pale, yellow, amorphous substance, is decomposed by nitrate of calcium, is soluble in water and in alcohol, and in the presence of free alkalies it reduces copper and silver oxides; but, unlike diabetic and grape sugar, it does not act upon the basic nitrate of bismuth, nor is it capable of fermentation.

In both of these cases the accumulation of fluid in the ventricles was acquired, not congenital, and the result of mechanical hyperæmia rather than of inflammatory changes. In the case first described the patient was young, the progress of the disease slow, the symptoms developed gradually, and there was distinct enlargement of the head, while the hydrocephalus was apparently caused by the presence of a tumour in the cerebellum. In the second case the patient was old, the progress of the disease rapid, and there was no enlargement of the head, and beyond thrombosis of Galen's vein, and, as a consequence, the accumulation of fluid in the ventricles with flattening of the convolutions, there were no morbid changes discovered in the brain. But it must be observed that whereas in the man, the obstruction to the venous flow from the choroid plexus, &c., was complete, and evidently sudden, in the child it was gradual and probably only partial; sufficient, however, to greatly increase the pressure in the parts from which the veins derive their current of blood: and as a result of this passive hyperæmia, serous effusion took place from the choroid plexus, and hydrocephalus ensued.

In connection with the case first described, the most obvious and at the same time most interesting point is, that the symptoms are not altogether what one would expect in a case of cerebellar disease, and at the same time they are more referable to a lesion of the cerebellum than to hydrocephalus. When contrasting the results of pathological lesions with what has been discovered by means of physiological research, it must be borne in mind that the physiological experiment is exact, and the limits of the injury are clearly defined and known, whereas in disease, although its site may be limited, its effects may lead to symptoms not referable to the seat of the primary lesion. Thus, in the case under consideration the earlier symptoms (those developed, we may presume, during the time the tumour was still small, and had not yet exerted pressure upon the neighbouring parts), namely, vomiting, cephalalgia, a tendency to push the head backwards, dilatation of the pupil, vertigo, and, a little later, complete amaurosis and impairment of muscular movement, were probably the immediate result of irritation of the cerebellum. But while these symptoms were present, on no occasion, so far as can be learned, was there the slightest indication of movements of rotation or strabismus, and only once a convulsion. There were indications of failure of the mental faculties and disturbance of common sensation. These latter symptoms, however,

developed late in the case, and were therefore probably due to changes in other centres. The majority of writers on the subject are agreed that the psychical functions and the power of speech are seldom disturbed in disease of the cerebellum, but that the co-ordination of movements is frequently impaired: while irritative motor symptoms are not uncommon. The interference with the co-ordination of muscular action may be shown in various ways—by movements of rotation, involuntary movements of certain groups of muscles, unsteadiness of gait, or by affections involving the movements of the eyes, &c. But while these symptoms are commonly seen in lesions of the cerebellum there are morbid muscular conditions such as disorders of deglutition, respiratory disturbances, and acceleration of the pulse, all of which must be attributed to the medulla oblongata, either because it has itself become involved in the lesion, or if the change consists in the formation of a new product, the symptoms may arise simply from mechanical causes. It therefore becomes very difficult to ascertain when we are dealing with symptoms strictly attributable to the lesion in the cerebellum. If we regard it only as an arrangement of different centres which collectively and individually regulate muscular action, then the way is clear; but when we consider the opinions of Foville and Dugès, who regard the cerebellum as the centre of common sensation; of Carpenter, who does not admit this view, but thinks it probable that it is the special seat of the “muscular sense;” and of Brown-Séquard, who attributes the various effects of cerebellar lesions—amaurosis, vomiting, cephalalgia, dilatation of the pupil, general or local convulsive movements, epilepsy, hemiplegia, general debility and disordered movements, contraction of particular muscles, strabismus, hyperæsthesia, noises in the ears, and exaggeration of the sexual desire—to irritation, not to loss of function of the cerebellum;* when we consider these views it seems far from easy to say what is due to the primary lesion and what we are to regard as secondary.

Notwithstanding the diversity of opinions in regard to the functions of the cerebellum, so far as the methods of investigation can be relied on, it seems tolerably evident, and is pretty generally admitted, that lesions of this part of the brain produce marked disturbance of co-ordination; but whether this disturbance is due to an impairment of the muscular sensibility, to interference with common sensation, to partial motor paralysis, or to a combination of these, is a subject for speculation.

* *Journ. de la Phys.* 1862. Tom. v, p. 486.

Although most of the symptoms in this case were probably due to the tumour in the cerebellum, and not to the accumulation of fluid in the ventricles, yet it is more than likely that the history of the case was altered by this occurrence. It is a well known fact that persons may suffer from chronic non-inflammatory hydrocephalus for years without showing evidence of any serious nervous disturbance, if only the skull becomes dilated, and so prevents the accumulated fluid from pressing unduly upon, and destroying the brain substance. In cases, however, of acquired hydrocephalus, where the patient is old and the skull rigid, the smallest quantity of fluid effused into the ventricles, or the sac of the arachnoid, may lead to a train of serious nervous symptoms, which may, it is true, begin insidiously, but in the end usually proves fatal within a limited period; whereas, in the congenital form, the symptoms are usually observed before the end of the sixth month; when the skull is still incompletely formed, it dilates easily, and the brain tissue may even project under the skin without any marked disturbance of the general health.

These two forms of hydrocephalus must be distinctly separated from one another; they have nothing in common except that in both there is an accumulation of fluid in the ventricles; and further, they should also be distinguished from cases where the effusion, either on the surface or into the cavities of the brain, is due to inflammatory causes. If the term hydrocephalus is to be employed, it should be limited to non-inflammatory cases, just as the names ascites and hydrothorax are used in contradistinction to peritonitis, and pleurisy with effusion. It being understood that hydrocephalus only applies to cases where the effusion is non-inflammatory in its origin, then, we think, it may be safely affirmed that in almost all the acquired cases the serous accumulation is due to some obstruction in the venous flow, either by tumours pressing upon the veins or sinuses, or the formation of thrombi within the vessels themselves.

In all the cases we have found recorded the thrombi have passed beyond Galen's vein into the straight, lateral, or longitudinal sinuses, so that the case above described seems to be quite unique.

ON THE OCCURRENCE OF THREE ERUPTIONS DURING ONE ATTACK OF MEASLES.

By JAMES FINLAYSON, M.D.,

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It is by no means uncommon to hear of two separate attacks of measles affecting a child, or it may be a whole family of children. Second attacks of scarlet fever, small-pox, and typhus fever are also occasionally heard of, and their occurrence has been proved beyond reasonable doubt; but while such a repetition is rare in these diseases, it is far from rare in the case of measles. Not a few of these second attacks of reputed measles may be most satisfactorily explained in view of two perfectly distinct infectious diseases being confused under the name of measles; and it is now generally admitted by those who have had opportunities of watching such cases, that the disease termed Rôtheln, Red measles, German measles, Epidemic roseola or Rosalia, is really a separate affection, distinct alike from measles and from scarlatina, although at times simulating the one or the other or both, affording no protection from either, and occurring occasionally in those who have had both of these diseases.

But while second attacks of measles in this sense—occurring after an interval of months or years—are by no means rare, the recurrence of an eruption of measles after an interval of days—that is, in the same illness—must certainly be regarded as very uncommon. The occurrence of a relapse or recrudescence of the fever is familiar to all in enteric fever, and in such cases we may have a re-appearance of the eruption of rose spots after they and the other indications of the attack had apparently passed quite away. Such is the interpretation which I am disposed to place on the facts observed in the following case: this seems much more probable than the idea of a fresh infection within such a short period.

A little boy, 15 months old, was attended by Dr. William Forrest throughout the whole of the illness. There were three children in the family: the oldest had had measles some time ago, and the second had just passed through a regular attack of measles. A fortnight after she sickened (that is, after the usual period of incubation), the baby was seized with a convulsion on 16th March, and on the fourth day thereafter (19th March) the measles' eruption appeared with the usual catarrhal symptoms which, however, were by

no means severe. There was, however, a certain amount of laryngeal irritation with hoarseness and other "croupy" symptoms, and even somewhat alarming laryngeal spasm. So far all this was common enough; we had the usual period of incubation in measles, and the usual prodromal fever of four days' duration preceding the measly eruption: the ushering in of the illness by a convulsion, and the laryngeal symptoms, are likewise well-known complications. But in nine days—28th March—a *second* eruption of measles made its appearance. Both the first and the second eruptions were somewhat more patchy in their distribution than is habitual in measles, and Dr. William Forrest thought that the patches in the second attack seemed to affect by preference those portions of skin left untouched by the first. This second eruption was ushered in by a fresh attack of somewhat alarming croupy symptoms. This eruption ran its course, and had nearly faded, when a *third* eruption appeared on 3rd April, six days after the second eruption. This eruption was deeper and more extensive than the former ones had been, and the distribution was pretty general over the whole body. Individual patches in some parts coalesced and formed somewhat extensive and dusky blotches, but the appearance of the face, and the general character of the rash, were perfectly typical. This was the attack in which I saw the child, and, although somewhat sceptical as to a third recurrence of the measles' eruption, I could not hesitate to admit that this was a most typical rash. This third attack had likewise been ushered in by croupy symptoms, and was associated with catarrhal symptoms in the chest of a distinct but not of a threatening character when I saw the child. Being satisfied myself of the reality of this third eruption, I scrutinised the history detailed above, as given by the mother, and found, from the points there referred to, that no doubt could be entertained of the other attacks being quite clearly due to measles also, and Dr. William Forrest, with an extensive experience of the disease, had no doubt of the genuineness of all three eruptions. There remained the question of the medicines used being responsible for the eruption. In the first attack a mixture had been ordered containing a few drops of tincture of belladonna, and likewise a minute quantity of some opium preparation; this had been used for the cough, but, as it had not been really troublesome, very little of the mixture had been given, and the dose of belladonna was so small that I could not believe it had the remotest connection with the eruption, which certainly had not the characters of a belladonna rash;

moreover, it did not seem to have been used at all between the second and the third eruptions. The medicine which had been used with considerable freedom, and with marked benefit, for the laryngeal spasms, was the hydrate of chloral in small doses, repeated as required, to subdue the spasms; but, although chloral seems to produce at times a congestion and mottling of the skin, I never heard of its leading to a distinctly measly eruption with its characteristic distribution. Besides, the chloral was only used when the croupy symptoms appeared, and these had ushered in the first attack as well as the others. I was thus satisfied that the illness had been really complicated by three separate but distinct and typical eruptions of measles, all within three weeks. I did not see the child again, but Dr. William Forrest informs me that the illness was further complicated by otitis, and subsequently by pneumonia, but the child seemed to be recovering from these complications.

Those interested in the question of such recurrent eruptions in measles will find in Churchill's *Diseases of Children*, third edition, 1870, p. 721, reference to this subject, and he quotes Dr. Willan's *Reports*, and also Dr. Gregory on the *Eruptive Fevers*. Barthéz and Rilliet, in the first edition of their *Maladies des Enfants*, Paris, 1843, refer very slightly to this curious occurrence (tome ii, p. 692), but they amplify their remarks, from subsequent experience, in their next edition. It is likewise referred to in Gerhardt's *Handbuch der Kinderkrankheiten* (Band ii, 318). The best discussion of the subject, however, will be found in the article by Thomas in *Ziemssen's Cyclopædia*, vol. i.

NOTE ON TERTIARY-SYPHILIS OF THE PHARYNX.

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IN Ziemssen's *Cyclopædia*, vol. iii, p. 202, Bäumlér asserts the following axiom:—"When tumours of the posterior walls (of the pharynx) occur in adults, we should always think of syphilis." This dictum might be applied with an equal degree of truth to ulcerations in that region, for the gummosis

tumour and the ulceration are but different stages of the same disease, and both, as a general rule, are indicative of syphilis.

Retro-pharyngeal tumours in adults are very different in character from those encountered in children. Whilst the latter are generally due to tubercular disease of the spine, the former are so invariably of a syphilitic character as to amply justify Bäumlér's rule. They belong to the late tertiary period, or, following Hutchinson, they may be considered rather as sequelæ than manifestations of the disease. They sometimes assume large proportions, are productive of marked respiratory and deglutitory symptoms, and have been known to be mistaken for sarcomatous or cancerous growths. Lancereaux remarks upon this error in diagnosis, and I myself have reported a case where the same mistake had been made (*Lancet*, 1881, vol. ii, p. 949). Such a tumour may form a prominent bulging in the mouth, so as to be readily visible on direct inspection, and may extend from the posterior nares as far down as the lower limits of the pharynx. It may come to press against the epiglottis and laryngeal aperture, and interfere to a serious extent with the functions of respiration. These tumours are firm on palpation, with a smooth surface, unless indented from pressure against neighbouring structures; they are not circumscribed, but pass gradually into the surrounding tissues. In the sub-mental region they may be present as palpable swellings.

The progress of a gummous tumour in this region is of a decidedly destructive character. It may result in necrosis of the vertebræ, with consequent exposure of the vertebral canal. Superficially, it invariably ulcerates.

This ulceration may be of a very wide character indeed, and may embrace the whole area formerly occupied by the tumour. It extends into the mucous and sub-mucous tissues, sometimes even more deeply, and has an irregular margin composed of flabby, unhealthy granulation tissue, jutting at places into the body of the ulcer, and forming peninsulas, and sometimes islets, of granulations which, to the uninitiated, have a decidedly neoplastic appearance. Its surface is covered with a copious grey, ichorous pus, readily removable, but quickly reforming. An example of this has been recorded by me (*Lancet*, 1880, vol. ii, p. 340). Left to itself, it has no tendency to heal.

A somewhat analogous train of symptoms follows upon both the tumour and the ulceration, more marked in the case of the former. The voice, when present, has a decidedly nasal

twang, deglutition is hindered, there is nasal regurgitation of food, and respiration is more or less impeded. A prominent feature in such cases is the *small amount of pain* which, indeed, is sometimes almost entirely absent, unless during deglutition, when it may extend into the ears. Patients are thus very tolerant of examination, and in this respect they present a marked contrast to cases of malignant or tubercular disease. Secretion is excessive, with a constant tendency to swallow, and with ulceration deafness may be associated.

The constitutional symptoms are such as indicate the so-called syphilitic marasmus. The tongue is furred, and there is considerable weakness, arising partly from inanition, partly from the dyscrasia. Fever is absent, the thermometer, in fact, frequently registering a sub-normal temperature. Amyloid degeneration of organs, and albuminuria, may be present.

In the process of ulceration, contiguous parts of the soft palate and faucial pillars may be involved. From the posterior wall of the pharynx, the ulceration creeps along the pillars of the fauces, preferably the posterior, which, along with the tonsil, may be deeply implicated in the process. On the soft palate the ulceration has an irregular serpiginous appearance, with bright red surroundings. The uvula may become firmly adherent to the pharyngeal wall, and perforation of the soft palate may ensue. The ulceration has a decidedly unilateral character, at any rate, one side is generally much more seriously affected than the other. The cervical and sub-maxillary glands are enlarged, but do not suppurate; if the tumour has not ulcerated, they may be unaffected.

The larynx may be affected simultaneously with the pharynx, but, as a general rule, it is later. The epiglottis may be notched and serrated from old syphilitic lesions, and, in the case of tumours, the entrance to the larynx may be largely occluded. In one case of extensive ulceration of the pharynx, with an adherent uvula, there was noted a considerable degree of intra-laryngeal swelling and ulceration, with distortion and narrowing of the glottic chink, inducing troublesome paroxysms of laryngeal dyspnoea, especially when, to the existing swelling, a little catarrh was super-added. The voice may be unaffected, nasal, hoarse, or aphonic, according to the degree of laryngeal implication, and the condition of the nasal passage.

On other parts of the body may be found traces of constitutional syphilis, but these are frequently absent, or cannot

be detected. The worst instances I have seen have been those of hereditary disease in individuals of both sexes, from about 18 to 22 years of age. It is interesting to note that, as pointed out by Morell Mackenzie, when the disease attacks the back of the mouth in this way, the anterior part escapes, and the permanent central incisors are not notched. From several instances that have come under my notice, I am led to conclude that the disease at this stage is not transmissible to the offspring, but may give rise to scrofula and rachitis.

The important practical point to be noted in such cases is the liability to mistake them for malignant disease. Typical instances of this have been recorded, in which mere accidents afforded clues to the true nature of the complaint. This is more likely to occur, as, being frequently inherited, a history of syphilitic infection can be rarely obtained, and other indications of the disease are often absent. *All tumours and ulcerations of the posterior pharyngeal walls in adults should, in the first instance at least, be regarded as syphilitic, and treated accordingly.*

Iodide of potassium is the remedy, *par excellence*. Large and long continued doses of this drug are frequently necessary to effect a cure. I lately had an opportunity of seeing a case where the green iodide of mercury, and subsequently iodide of potassium in five grain doses, given thrice daily, had no effect upon the disease, but where, when the dose of the potassium salt had been trebled, a rapid cure resulted. This applies both to the stage of tumour and ulceration. Along with this may be given the syrup of the iodide of iron, especially in weak anæmic women. Mercury is contra-indicated, more especially when albuminuria is present.

The local treatment should consist of antiseptic gargles and mouth washes, and should be directed towards cleansing the surface of the ulcer, and promoting a healing action. For cleansing purposes, nothing is better than a spray of a 5 to 10 per cent solution of boro-glyceride, which should be applied both by the nose and the mouth. Subsequently, brushing with a solution of sulphate of copper, 15 grains to the oz., is all that is necessary. Adhesions, such as between the uvula and the posterior wall of the pharynx, are best left alone, for if the uvula be simply detached from the pharyngeal wall, it is almost sure to reunite. This union seldom causes much trouble, but should it be necessary to effect a separation, it is best to perform ablation of the uvula, and remove it entirely. But even under proper anti-syphilitic treatment, the course of these affections may be very protracted, and they are very

prone to relapse. The co-existent cachexia and amyloid disease add greatly to the intractibility of the complaint.

The cicatricial contractions which ensue on the healing of the ulcers may require special operative procedures, which it is not within the range of the present communication to attempt to discuss. The object of the paper will have been attained if it prove successful in directing attention to an important class of pharyngeal affections, which are not at all uncommon, and about whose nature and treatment considerable uncertainty appears to exist.

PAGET'S DISEASE OF THE NIPPLE.

BY ROBERT MUNRO, M.A., M.D., KILMARNOCK.

IN the number of this journal for November 1881, I published a short article in which were described three cases of eczema of the mamma and nipple, two of which were followed by cancer of the breast, while the third quickly recovered under ordinary treatment. (In regard to the latter I am happy to say that up to the present time there is no appearance of any abnormal condition of the mamma.) Case II consisted of eczema of the surface of the breast without involving the areola or nipple, but which, though yielding to treatment, was almost immediately afterwards followed by carcinoma of the mammary gland and which recurred after the removal of the entire organ. The only point of interest attached to this case was the connection, if any, between the external skin disease, which had no appearance of any malignity, and the subsequent carcinoma. I may say that after the disease reappeared it manifested itself in secondary deposits in the adjacent glands, especially those of the neck, which became greatly enlarged and of stony hardness. The cicatrix presented a raised ridge, but neither it nor any of the glands showed the slightest tendency to ulceration. Before death, the patient became emaciated to an extraordinary degree, and *pari passu* with this condition the tumours became smaller, so that, ultimately, they could hardly be distinguished from prominent portions of the bones. The real impor-

tance, however, of my former paper centred on Case I, which it will be remembered first attracted notice by a slight eczematous irritation on the tip of the nipple, and for several months proved quite intractable to various modes of treatment. It was then resolved to remove the nipple by excision; but notwithstanding this the supposed eczema returned in the cicatrix within 18 months of the operation, and almost simultaneously with its recurrence a small hard tumour was detected in the substance of the mammary gland, together with distinct enlargement of some of the neighbouring glands.

Before giving further details of the progress of this case towards its fatal conclusion, it may be as well to recall the following words which form the concluding portion of my previous paper, because it describes not only the condition of the patient up to that date, but also the opinion which, from clinical observation alone, I had been led to form regarding these so-called cases of eczema of the nipple:—

“At the present time the sore is of a circular shape, and about the size of a sixpence, with an irregular margin from which small whitish skin-like processes project. Its surface has a peculiarly bright red colour, and over it I have observed occasionally whitish island-like spots of this false skin which, for the moment, might cheat one into the belief that it was in the course of healing up. One specialty in the treatment of this case, which has not hitherto been recorded, is the entire removal of the supposed eczematous disease at a comparatively early stage. Its recurrence at such a long interval, and concurrently with both the breast-tumour and the more distant glandular nodules, supports, in my opinion, the theory that these cases of so-called eczema of the nipple are really cases of duct-cancer. At any rate, it is my firm belief that in the case of Mrs. B. A. here recorded, the primary sore was from the very commencement malignant disease of the epithelium at the mouths of the galactophorous ducts, and that the supposed induced or secondary disease in the breast, stands in the same relation to it as the more distant glandular deposits. Contamination through these ducts must have progressed beyond the point of excision of the nipple, so that, notwithstanding the removal of the open sore, the morbid process continued to advance steadily in the line of the absorbents; while after adhesion of the skin in the wound had taken place there was less facility for its again reaching the surface.”—*Glasgow Medical Journal.* Nov. 1881.

The subsequent history of the patient was characterised by great rapidity of the local disease and a corresponding decline in general health. As the tumour grew larger and its irregular prominences approached the surface the skin over them became red and inflamed, and ultimately formed ulcers. The following extracts from my notebook will sufficiently show the progressive stages of the disease on the respective dates:—"Nov. 19.—Two sores appear over prominent portions of the breast tumour. The skin over each is red and slightly raised, with here and there little suppurating points. 27th Jan. 1882.—These sores are now converted into large ulcers. The central portion on each ulcer, to the extent of about 1 and 2 inches respectively, mortified and sloughed away. Poultices had to be applied for several weeks."

Shortly after the mortified portions had been got rid of the two sores coalesced and formed one large ulcer, from the surface of which a large quantity of pus was daily secreted, in the course of which the tumour almost entirely disappeared. Some weeks prior to death (which took place in April) the ulcer assumed a very characteristic appearance. It was of a bright red colour and had an irregularly circular shape, with a series of horse-shoe-shaped projections, about the size of a sixpence, round its margin, all of which presented raised, everted, and sharply defined edges.

Though there was no apparent increase in its size during the latter weeks, the very marked contraction and puckering of the skin in its vicinity indicated its great activity and constant encroachment upon the surrounding tissues.

It will be thus seen that the final stages in the progress of this case, by revealing its true pathological characters to be those of epithelial cancer, greatly strengthen the general conclusions which, from the purely clinical standpoint, had already found acceptance in my mind, viz.:—That so-called eczema of the nipple, followed in the course of a few years by carcinoma of the breast, is merely the primary stage of the malignant disease, and clinically distinguishable from simple eczema. This assertion, however, is not intended to invalidate the well known fact that a continued local irritation may terminate in a cancer as a secondary disease, especially in those who have an inherited tendency to the latter. I am not, however, aware of any circumstances that would lead to the supposition that this result is less exceptional when applied to the nipple and its associated gland than to any other organs similarly correlated.

A CASE OF ECZEMA OF THE NIPPLE AND AREOLA; WITH REMARKS ON THE NATURE AND DIAG- NOSIS OF THAT AFFECTION.

By ALEX. NAPIER, M. D.,

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IN dealing with skin affections of the nipple and its immediate vicinity, it becomes one's duty, in view of the investigations of Paget, Butlin, Thin, and others, to distinguish at as early a period as possible between simple benign disorders and those which are either of cancerous nature from the outset, or likely to lead to the development of cancerous disease in the breast. But this is not always easy, the appearances noted in the recorded cases of "Paget's Disease" being extremely variable, offering no sign or group of signs pathognomonic of the affection. The details of the following case, one of simple mammary eczema of old standing, cannot be without interest, as showing that long duration is not of itself to be taken as an indication of malignancy of character in such cases.

Mrs. D., a healthy looking married woman, called at Anderson's College Dispensary, on 15th February, 1882, for advice regarding an obstinate eczema of two and a half years' standing, affecting the right nipple and a portion of the areola. The disease began just a month before the birth of her last child, the first step in the process being the occurrence of suppuration above and to the inside of the right nipple. This abscess was allowed to break of itself. When her child was born no milk appeared in the affected breast, but a week after confinement the breast suppurated again, the swelling breaking and discharging a little. By this time the eczematous condition now to be described had established itself. The eczematous patch was found on examination to be nearly circular in shape, about two inches in diameter, and so placed that its lower border passed just under the nipple, from which the disease extended upward and toward the middle line. The surface was covered with light scabs or crusts, underneath which was found a reddish excoriated surface with a thin serous discharge. Round the base of the nipple, on its outer and upper aspects, ran a deep crack or fissure. The patch was pale purplish red in colour, slightly thickened and infiltrated, decidedly itchy, but almost painless, and with no feeling of burning. It had a well marked, raised edge. There was no hardness of the neighbouring parts of the breast, no retraction or diminution

in size of the nipple, and no enlarged or indurated glands could be detected in the axilla. The scars of the abscesses which were said to have formed and burst on the site of the eczema could not be found. The patient had no record of the treatment she had been under, but she stated that many applications, chiefly ointments of various kinds, had been tried, but with no good result, the eczema having remained in practically the same condition during nearly the whole period of two and a half years. Feeling uncertain whether this was a case of simple chronic eczema or of disease of a graver character, I determined to treat it for a short time on the former assumption, and ordered the frequent application of an ointment consisting of zinc ointment, vaseline, and pitch ointment. At the same time the patient was advised of the possible nature of the affection, and urged to attend the dispensary regularly.

On 1st March, it is noted that the crack was healed, and that the patch looked much better, was softer, and more nearly of its natural colour.

On 18th March the patient returned showing the nipple and areola in a perfectly healthy condition, the skin being sound and supple, though slightly darker in colour than the areola of the other breast. She departed promising to come back if the disease reappeared, but evidently thinking that too much fuss had been made about the matter. I have not seen her since.

Bearing in mind the result of treatment, there can be little doubt that this case was one of simple chronic eczema of the areola and nipple, a disease which, occurring apart from the period of lactation, is of itself sufficiently rare to be interesting, as, out of 704 cases of eczema which have come under my notice at Anderson's College Dispensary during the last three years and a quarter, this case and another are the only instances in which the region named was affected. Mr. H. Morris states (in *Med. Chir. Trans.*, lxiii, p. 37) that of 305 cases of cancer of the breast he had seen, from 1872–77, only one was preceded by eczema; and that of eight cases of eczema of nipple, not one was followed by cancer.

The question of diagnosis forced itself on the attention here at the very outset. It is quite possible that the long continued irritation of an eczema of the nipple may occasionally give rise to cancer of the breast, just as a persistent irritation in any situation is known to cause malignant disease in certain subjects: the occurrence of cancer after ichthyosis or syphilitic disease of the tongue furnishes a parallel instance. Mr. Henry Morris also, has recently put on record a case (in *Med. Chir. Trans.*, lxiii, p. 323) in which a small patch of eczema of the

skin of the neck, remaining unchanged in character for five years, led in the course of four more years to the development of cancerous disease in the subjacent tissues on being irritated mechanically and by the application of caustics. But even such facts make it not the less a matter of urgency that the benign or malignant nature of any skin affection in the neighbourhood of the nipple should be promptly recognised, particularly if Thin's view is correct, and I believe it is, that "Paget's disease" is no eczema, but malignant from the first.

In looking through the literature of the subject, not even now very voluminous, little aid is obtained towards the formation of a diagnosis. Much stress is usually laid on the *duration* of the disease, but this will be found to vary within strikingly wide limits. Thus, in Paget's original fifteen cases, "cancer of the mammary gland followed within at the most two years, and usually within one year." In Butlin's first case the disease is said to have been simply "of long duration;" in the second it had lasted three years; and in his other two cases, examples of undoubted hard carcinoma, the eczema had preceded the appearance of breast tumour by about *two weeks* and three years respectively. In other recorded cases (Thin, McNaughton Jones, Heywood Smith, C. B. Porter, Morris, Munro, and others) the period which had elapsed from the appearance of the "eczema" till the development of mammary cancer varied from about twelve months up to six years. Dr. C. B. Porter, in the discussion which followed the relation of his case before the Boston Society for Medical Observation, said "The only guide for interference when the cancerous degeneration is not manifest is the duration. An eczema of the breast of long standing should be removed. He would consider it chronic after a year's duration, and advise excision." It seems quite clear, then, that if eczema of the nipple may precede the appearance of cancer of the gland by only a fortnight in some cases, and by a period as long as six years in others, duration *per se* cannot be depended on in making a diagnosis. In the case here related the disease had lasted two and a half years, and turned out to be simple eczema after all.

The descriptions given of the *appearance* of the parts affected are not less variable. In some cases the diseased surface was "intensely red, raw, finely granular," this being limited to the areola; in others it presented the characters of an ordinary chronic eczema, with minute vesications, succeeded by soft, moist, yellowish scabs;" occasionally it has been "like psoriasis, dry, with a few white scales

slowly desquamating," this spreading far beyond the areola. In one instance "the nipple had melted away, leaving a hole, the part presenting "a foul depressed ulceration," and this lasted for four years before the appearance of any breast tumour; in another the nipple disappeared, leaving a circular superficial ulceration, surrounded by eczema, having a sharply defined border; in others the patches were hard, raised, uneven, scabbed, and showed simply "a very chronic eczema, apparently of ordinary nature." The nipple is spoken of as being sometimes "slightly retracted," depressed, or absent, while its site is occasionally occupied by a depressed ulceration. Pain is generally slight or not complained of, though in one instance it became severe and stabbing as the breast tumour was forming. In short, a perusal of the literature of the subject has convinced me that at least two conditions have been included under the term "Paget's disease," the one a true cancerous condition, the other a simple chronic eczema. A part which is raw, granular, ulcerating, leading to the melting down and disappearance of tissue, cannot be said to be simply in an eczematous state; while, on the other hand, a superficial skin affection, with all the appearance of eczema in various stages of chronicity, lasting without appreciable change for many years, and often curable, cannot be set down as cancerous, though such conditions may be followed by malignant disease in a longer or shorter period, varying with the constitutional predisposition of the subject.

Regarding the curability of superficial skin diseases which if left alone would infallibly develop into true cancer, Prof. W. Busch, of Bonn, records some most interesting experiences (*Langenbeck's Archiv f. Klin. Chir.*, Bd. xxi, p. 673) which have a direct bearing on the point under discussion. He first gives his views as to the manner in which epithelial cancer of the face and lips develops. The first step in the process he states to be a simple hypertrophy of the corneous epidermis on the very surface of the apparently healthy skin. Then a thick scurfy crust forms, falls or is picked off, re-forms, is again removed, and so on till ulceration takes place. The epithelial elements pass downwards through the connective tissue, infecting the bones, glands, and other parts, and constituting true cancer. But this process often remains stationary for many years in its first stage, that of epithelial hypertrophy; in this stage it is not true cancer, and is curable by suitable treatment. He suggests that the hypertrophied epidermis offers simply a *mechanical* obstacle to the shedding of the rapidly formed corneous epithelium, preventing its

progress outwards, and forcing it to grow inwards through the connective tissue; at any rate, he finds that when this mechanical obstacle—the scurfy crust—is removed and is not permitted to re-accumulate, the process stops short of the inward growth of epithelial structures and the cancer is held in check. This he accomplishes by the systematic use of alkaline solutions. To soften off the crusts he applies a one per cent watery solution of soda, or if the crust be very thick, a one to forty solution; then the skin has afterwards to be washed daily several times with a one to two hundred solution, to prevent the re-formation of crusts. This has to be kept up during the rest of the patient's life, as if it be interrupted the epidermis begins at once to gather again. After operations for cancer he causes the patient to wash the scar with this lotion, and finds that this makes relapses very much rarer; though, of course, in case of very extensive malignant disease, if cancerous tissue be left behind it will grow towards the surface, and here such a lotion is of no use. Some cases are then given bearing out these views. In one instance in particular the patient had been operated on fifteen years before for cancer of the face; for years he used the alkaline lotion, and remained free of disease; then he stopped using the lotion, when the disease in its original form began to appear; on resuming the application this gradually passed off and the part remained well. Dr. Busch then asserts that this mode of treatment cures epithelioma of the lip so long as this is simply in the stage of crusting, of epithelial hypertrophy; but it has no effect after ulceration has occurred in this situation. On other parts of the face it will sometimes effect a cure even after ulceration has taken place, and the author gives two cases illustrative of this event. Prof. Busch then refers to Paget's well-known paper in the tenth vol. of *St. Bartholomew's Hospital Reports*, and in this connection the interest of the paper lies chiefly in the relation of four cases of breast tumour, in which the nipple was affected, cured by means of his alkaline treatment. In Case I there was a painful mammary tumour, but no enlargement of the axillary glands. On the nipple was a thick layer of warty-looking epidermis, and on the nipple of the sound side a little of the same was noticed. On softening and raising the crust there issued from the nipple a thick, yellowish-white plug, like a comedo, or such as may often be expressed from epithelial cancer, this plug consisting of epithelial cells which had undergone fatty degeneration. The washing was continued, the tumour

disappeared, and in two months the patient was well. In two other similar cases the same treatment gave equally favourable results. In the fourth case the tumour was an inch and a half in diameter and of extreme hardness; here also the epidermis of the nipple was much thickened. The soda treatment caused the complete disappearance of the tumour, the first application being followed by what the patient described as "a discharge of thickened milk." Another smaller tumour formed at another part of the breast, and this was under treatment at the time of writing. The author concludes by stating that he had seen many cases of mammary cancer in which the nipple was unchanged, except that it showed the usual retraction. In many other instances, however, the nipple was found more or less crusted with thick epidermis. In these more recent cases he had not had the same success in arresting the growth of the tumour by the alkaline treatment, even in cases in which epithelial plugs were expressed.

The author, writing in 1877, mentions incidentally that some years previously, and apparently before Paget, the first of these four cases suggested to him the idea that the growth of the breast tumour may have resulted from closure of the milk ducts by cellular masses, though in 1864 he had, at a meeting of the Niederrheinischen Gesellschaft, described the process as following the reverse course, supposing that the carcinoma, starting from the point primarily affected, spread along the epithelium of the ducts to other parts of the gland.

I have quoted Busch's paper at some length on account of the important bearing it has on the discussion of the probable origin of mammary cancer after disease of the nipple. The method of treatment described is also well worth bearing in mind in dealing with cases such as he refers to; and as this epidermic crusting of the nipples is common enough in the old, and even among the middle aged, the possibility of its leading to cancer should never be forgotten. Volkmann recommends the alkaline treatment in hyperplastic conditions, the result of simple chemical irritation, especially such as are chronic and associated with general thickening of the epidermis. Dr. S. W. Gross also, in his work on *Tumors of the Mammary Gland*, besides referring to two cases of "Paget's disease" he had seen, mentions one in which Busch's treatment was successful. Further, Dr. T. Chambers records two cases in which eczema of the nipple had lasted nine and eighteen months respectively, the nipple being retracted, flattened, fissured, and the breast enlarged, nodular, and painful; "the neighbouring lymphatic

glands were similarly affected." In these cases attention to uterine disease, which was present in both, and the local application of tincture of opium and glycerine, promptly effected a cure, the breasts assuming quite their normal appearance. And Dr. R. Munro (see this *Journal*, November, 1881) has reported a case of true eczema of the nipple and areola, which became perfectly well under ordinary treatment.

Such cases, then, as show open foul ulceration, are unquestionably already cancerous, and the surgeon's duty in regard to them is plain. There seems also to be no necessity for applying the name "Paget's disease" to such cases. Of the other cases which have been recorded, many of them were obviously, for a period of years at least, simple eczema, and nothing else; and to these also, especially in their early stages, the name "Paget's disease" appears to be equally inapplicable. There remain other cases, however, separate from these, and to such the new term proposed is appropriate; cases simulating eczema, but associated with or closely followed by true malignant disease of the breast. If tumour of the breast be present, the diagnosis is plain, and the surgeon's course equally so. But how is the really malignant character of such cases to be recognised while there is yet no tumour? Duration simply is no very reliable guide. And in regard to appearance, the only diagnostic sign which has so far been suggested is the presence of a well defined, overlapping margin, "forming a veritable ridge with a sulcus behind it." This, when it is present, is doubtless a valuable indication, and if it were associated with a red, raw surface, which was obstinately rebellious to ordinary treatment, then the inference that Thin's "malignant papillary dermatitis" existed would be warranted. Such a ridge is not common in simple eczema, the infiltration which accompanies that disease shading off gradually into the sound tissues, as a rule; in the case I have described, however, there was a well marked and distinctly elevated margin, and one occasionally notices the development of a firm base and well defined edge in patches of chronic eczema, when treated by strongly stimulating applications. Even cases in which this ridge is wanting should be frequently seen and closely watched; and if they resisted vigorous treatment, the removal of the affected part and the gland tissue immediately subjacent would be indicated, more especially if any tendency to cancer were known to exist in the patient's family.

The following list includes most of the notices of "Paget's disease" which have yet appeared:—

- Paget, Sir James.—*St. Bartholomew's Hosp. Rep.*, 1874, vol. x, p. 87.
 Butlin, Mr. H. T.—*Med. Chir. Trans.*, vol. lix, p. 107; vol. lx, p. 153.
 Thin, Dr. Geo.—*Path. Soc. Trans.*, vol. xxxii, p. 218; *Brit. Med. Journal*, 1881, vol. i, pp. 768 and 798.
 Morris, Mr. H.—*Med. Chir. Trans.*, vol. lxxiii, pp. 37 and 323.
 Lawson, Mr. Geo.—*Clin. Soc. Trans.*, vol. xiii, p. 37; vol. xiv, p. 222.
 Smith, Dr. Heywood.—*Lancet*, 1882, vol. i, p. 684.
 Porter, Dr. C. B.—*Boston Med. and Surg. Journal*, 4th May, 1882.
 Discussion at Boston Soc. for Med. Obs., *Ibidem*.
 Gross, Dr. S. W.—*Tumors of Mammary Gland*, p. 28, London,
 H. K. Lewis, 1880. *Philad. Med. Times*, 5th July, 1879, p. 486.
 Busch, Prof. W.—*Langenbeck's Archiv f. Klin. Chir.*, Bd. xxi, p. 673.
 Forrest, Dr. R. W.—*Glasg. Med. Journal*, 1880, vol. xiv, p. 457.
 Munro, Dr. R.—*Glasgow Med. Journal*, 1881, vol. xvi, p. 342.
 Macnaughton Jones, Dr. H.—*Path. Soc. Trans.*, xxxii, p. 242.
 Savory.—*Brit. Med. Journal*, 15th December, 1877.
 Chambers, Dr. T.—*Lancet*, 1879, vol. ii, p. 743.
 Welply.—*Brit. Med. Journal*, 1880, vol. i, p. 555.

ON THE * UNITY OF POISON IN SCARLET, TYPHOID,
 AND PUERPERAL FEVERS; ERYSIPELAS, DIPH-
 THERIA, SORE THROATS, CERTAIN FORMS
 OF DIARRHŒA, AND ALLIED AFFECTIONS;
 PLEURISY, PNEUMONIA, PLEURO-PNEUMONIA;
 AND MANY OTHER AILMENTS USUALLY CON-
 sidered TO BE SEPARATE AND ENTIRELY
 DISTINCT DISEASES.

By DR. G. DE GORREQUER GRIFFITH,
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"If a man be content to begin with doubts he shall end with certainties."—BACON.
 "All scientific novelties are subject to inconsiderate criticism."—PASTEUR.

FROM the facts connected with these † affections—clinical
 and pathological—embracing as they do, the ætiology, the

* By unity is meant not that the poison is always the same, but that
 the one poison—the one *origo mali*—whatever it may be, will originate
 these several so-called different affections.

† I had first placed at the head of my paper only the first four diseases
 (keeping to the conventional word).

history of origin, progress, interchange, and inter-commun-icability, mode of propagation, hybridity, and transmutation, we cannot avoid arriving at the conclusion that these ailments may be generated *de novo*, and from one common source as well as by direct communion with one already suffering; or by indirectly, through some secretions, excretions, or something, or person, that has been in contact, or communication with the sick.

That there are two forms of scarlatina is distinctly manifest—a fact thoroughly established on evidence from which there is no escape. There is—1st. That contracted from a scarlatina patient, or from some one or thing that has been in contact with him, or in communication with him. To this I give the name orthodox scarlatina. There is—2nd. That generated *de novo* from blood poisoning, such as occurs in puerperal patients, and in surgical cases (the “surgical scarlatina” of Sir James Paget) from noxious drains, sewers, imbibition, or ingestion of pernicious articles of drink or food—such as tainted water, milk, cream, decomposing animal or vegetable substances; or from deleterious matters absorbed or otherwise passed into the blood, and thence into the tissues of the body more or less generally. To this form I have given the name toxæmic, to distinguish it—as regards origin—from the orthodox. As an example of what I mean I shall give the following particulars:—

At one of the meetings of the Harveian Society the president brought forward a case which he termed “simulative scarlatina from eating tomatoes,” in which occurred all the symptoms of scarlatina, except that there was no desquamation; and for albumen in the urine no search was made.

In passing, however, I may observe again—I have made the same remark elsewhere—that desquamation is no proof whatever of the existence of orthodox scarlatina, and its absence no disproof of orthodox scarlatina having attacked a patient; for, high temperature of the skin, arising from any causes—and they are various, setting scarlatina aside altogether—will occasion such rapid cell changes, that the surface cells will be thrown off in larger or smaller quantities, and masses, according to the height to which the temperature has run, will be shed wholesale, being effete. Thus arises that process which we call desquamation. In some undoubted cases of scarlet fever there may be only slight exaltation of temperature, or so transiently may it take

place that it escapes detection; or it may even be altogether absent, owing to the great and sudden depression of vitality produced by the virulent character of the virus, or by the largeness of the dose taken into the system, or the suddenness of its invasion. With this absence of high temperature desquamation will also be absent. Nor is albumen in the urine a pathognomonic sign of scarlet fever poison pervading the system. In how many conditions and affections of the body other than those demonstrating the existence of scarlatina will not albumen be found? "There is nothing unusual in the fact that inflammation of an important surface should be attended with albuminuria," says Mr. Jonathan Hutchinson. (See *Brit. Med. Journal*, 3rd May, 1879, page 665, under head of Discussion at Medico-Chir. Society on Report of the Committee on Croup and Diphtheria.)

Here—in the person of the patient brought before us—was undoubtedly a case of "toxæmic scarlet fever," symptoms generated, as far as could be traced, by the eating of tomatoes. No source of contagion or infection having been discovered or being discoverable, no other source of origin, these fruits were apparently the *origo mali* of certain chemico-physiological changes in the system, which were sufficient to produce a general poisonous effect that demonstrated itself in phenomena or symptoms—the majority of which, or the entire in the aggregate being such as to lead the observer to say the patient had got scarlatina.

Bearing upon this case I would adduce an instance wherein the symptoms of scarlatina were all so marked that it is specially applicable, and fully corroborates the president's in showing that ingested materials will at times induce symptoms so closely resembling orthodox scarlatina as to be undistinguishable. And here I would ask, If undistinguishable, how then does the attack differ from orthodox scarlatina, *i. e.*, that which has been contracted from a scarlatina patient or some one, or thing, that has been in communication with him? *The difference lies only in origin!* In my case the symptoms arose from eating very high game, and though not proceeding from eating tomatoes it is relevant—1st. Because in all points it was one of "simulative scarlatina"—a name I was the first to use some years back, but for which I now prefer to use the term "toxæmic scarlatina;" 2nd. Because it arose from a similar, though not the same, cause, ingested material; and thus, thirdly, was an answer to the query propounded, Were the symptoms in the instance before us due to eating one of the solanaceæ order?—inas-

much as it shows that causes other than *the active * principle of that order* produce such symptoms, even while admitting that the active principle of the tomatoes may *per se* at any time, under certain circumstances at all events, set up toxæmic scarlatina, may in this particular patient have directly produced the symptoms and been the direct exciting source of the illness.

A second case which I would adduce bears strongly on the same; so strongly, indeed, that though having published it in 1875, I will quote it as it also is to the point:—

1st. Because in symptoms it was identical; 2nd. Was what would be termed “simulative (toxæmic) scarlatina;” and 3d. Showed that these symptoms may arise even from *animal* poisons passing into the system *in a way other than by the mouth*:—viz., by the womb, in contradistinction, though not in opposition, to the tomatoes case.

Thus again answering the question directly by showing that the “simulative (toxæmic) scarlatina” symptoms are not *necessarily* dependent upon the ingestion of solanine, since they would be produced by animal irritants or poisons absorbed not through and from the mouth and stomach alone, but in other ways also.

I will here relate the case—a typical one, and such as has come before every medical man—and conclude with some remarks bearing upon it, and upon the entire subject:—

The conditions alluded to, and which are identical with scarlatina—are the same I now consider—have their origin not from orthodox scarlet fever contagium, that is, from a scarlatina-infected person, or some one or thing belonging to such a patient—there never having been any exposure to scarlatina in that way—but from the putrescing and offensive matter in uterus and vagina, the resulting pyrexial action being indicative of the concealed cause, the latent mischief, that, without careful observation, might pass unobserved.

With the train of symptoms to which I refer, who practising obstetrics is not acquainted? The chilliness and shivering; the sickness; the dreadful headache; and the congested eyeballs from which the paining light must be veiled, or even shut off altogether; the sore throat, crimson with inflammation; the peculiar tongue; the hot pungent skin, that so rapidly sends up the mercury, and is *dyled with the unmistakable rash*, with which is a tinge of jaundice—yellow, here and there more noticeable; the delirium; the oppressed heart and breathing; and later on the diarrhoea. What are these

* Belladonna, it is well known, produces scarlatinous efflorescence, &c., &c.

symptoms to be termed? Not *simulative* scarlatina surely, since they are not simulative at all, but are exactly the same as obtain in scarlatina contracted from a previously infected person or source—orthodox? What then are they? Symptoms of what for contradistinction' sake I term "toxæmic scarlet fever," but assuredly, as true scarlatina as the other form—the orthodox—though not generated in the same way, but generated *de novo* in the woman herself, and the outcome of the condition of blood poisoning existing, *not* from the introit of a *specific virus*, but of elements given off in uterus or vagina—not, it may be, noxious when given off, but becoming so subsequently from morbid changes—and when noxious, taken into the system; a blood poisoning, I repeat, the result solely of the putrefying animal matter in uterus or vagina, and of unhealthy changes, taking place locally first, in the generative tract and system, setting up local mischief primarily, and then developing and evolving through the entire body of the puerperal, till all the symptoms I have portrayed have made their appearance. In a scarlet fever epidemic such a group of symptoms happening to the lying-in would be set down to scarlet fever poison, contracted from another affected with it, or from some one or thing belonging to, or that has been in contact with, such an infected person; for it is not yet generally accepted that scarlatina can commence *de novo* in the manner I describe. But these symptoms will be found where no previous case, or contagium, or source of origin other than what I name, has existed.

What, then, are those phenomena? I gave them the name of bastard or simulative scarlatina when I first wrote on this subject, not at that time considering them true scarlet fever; or, that the ailment could be so produced; or, indeed, be produced *de novo* in the ways that further researches have shown me it can. True—orthodox—scarlatina I considered to be that form contracted from a previously existing case, or from some one or thing connected with, or which has been in some way or another brought under and near the influence of the scarlatina virus existing in a previously infected patient. Bastard, or simulative scarlatina—toxæmic—I considered to be those scarlatina manifestations or appearances heretofore deemed mere resemblances—a view I also then took, but which I now know to be not resemblances, but the actual manifestations themselves of toxæmia set up otherwise than from orthodox scarlatina, differing only from the orthodox form in that they originate *de novo* from such sources of contamination as may occur in the lying-in; or from vitiated

water, milk, cream, or the taking in of "high," *i. e.*, putrescing articles of diet,* or decomposing drinks, such even as milk which has begun to undergo deterioration, it may be simply because it has been long "drawn;" † or it may be because it has been allowed "to stand" in a place, and under ‡ circumstances of temperature, &c., which would permit or hasten unwholesome changes, § the milk being at the time not unpleasant to the ordinary taste, nor even at all perhaps perceptibly altered in flavour. || I now recognise these symptoms

* Upon this Dr. Carpenter wrote very clearly in 1853, in the *Brit. and For. Medico-Chirurg. Review*. See his article, "Predisposing Causes of Epidemics."

† The following remarks will explain what I mean when I say that even milk undergoing deterioration will produce scarlet fever:—On Thursday, 30th January, 1879, at the meeting of the Metropolitan Counties Branch of the British Medical Association, Mr. Gray, in a paper on "Milk as Food for Man," said:—"In the absence of any positive knowledge as to the source of the various exanthemata—measles, scarlatina, and the like, characterised by fever, and without doubt related to some form or forms of blood poisoning, disorders that abounded mostly after dentition, and when milk was often the predominating, if not the sole article of food, was it unreasonable that we should turn with suspicion to *those unwholesome ingredients of decaying milk* for their explanation?" He continues—"Milk when once exposed to the air and rest, underwent a series of chemical changes through the influence of external and internal agencies which ensued in its degradation and decay, its last stage being that of a limpid fluid, mainly composed of water, salts, and acids, amongst which figured the lactic, butyric, capronic, and capriolic. To this downward career it was carried by becoming the habitat of broods of vibriones of different kinds, and, according to Professor Lister, of a certain bacterium—*bacterium lactis*—and by certain carpetings of its surface by *oidium* and other varieties of mould."

‡ "M. Fauvel, of the Paris Chemical Laboratory, has discovered an additional danger to that abominable invention, the baby's feeding bottle. Of 31 feeding bottles taken from various crèches in Paris, 28 contained both animal and vegetable life, the milk remaining in all smelt badly, was acid and half coagulated; the globules were deformed, and numerous very lively bacteria, along with some vibriones, were present. On cutting open the caoutchouc tube through its length, coagulated milk, with small organisms, was met with; but a still more important fact was the presence in the nipple of a mass of vegetation of cryptogamic nature. Some of these bottles had been washed and were ready for use."

§ The lactic fermentation has relations to a small oval bacterium, which hence has been called by Lister, *bacterium lactis*.

|| These deleterious, if not absolutely poisonous changes, in a fluid introduced into the system and taken up into the blood, will show how milk and cream, and substances or fluids with which they are mixed and combined, can and will prove a source of originating blood-poison which, in different periods of life—cycles of age—and under different circumstances, will declare itself in symptoms at one time, or in one person, of one or other of these *so-called different AFFECTIONS*; at another time in the same person in a different form or set of symptoms, or at the same time in

arising from causes, other than the infection or contagion derived from a previously infected person or thing, to be as true scarlatina, and capable of becoming in its evolutions and its transmigrations from one to another, as infectious and contagious as the other form.

Sir Wm. Gull has stated his belief that diphtheria may "commence locally, forming a poison which will propagate itself;" and he has "drawn a distinction between diphtheria, and diphtheria poison, regarding the disease as beginning with a poison, but *sometimes as commencing locally, and forming a poison which propagates itself.*"—(*British Med. Journal*, 3rd May, 1879. Page 666.) This bears me out in the contagious and infectious character of toxæmic scarlatina.

And it will be found that scarlatina generated *de novo* from blood poisoning, or effected in any other way than that *usually accepted as being the only way* in which scarlatina is generated and propagated—viz., from a previously scarlatina-infected person or thing, is infectious and contagious alike with the other form. I do not now consider *that* to be bastard or simulative scarlatina which I formerly described as such, but look upon it as true, generated differently, propagated similarly. I was first led to these conclusions by a case of auto-genetic poison-

different people in the different manifestations to which have been given specific names—scarlet fever, typhoid, puerperal fever, diphtheria, erysipelas, &c.—for the purpose of distinction and of conveying to others what we mean, and which I look upon as phases of the evolution of the one poison.

I would call to mind how often the puerperal woman is dosed with gruel made with milk—that has in many cases been "standing" for some hours, and it may be in the puerperal room itself, wherein the atmosphere is not always, by ignorant people, kept the sweetest, on the supposition that milk creates milk; how the children, and husband, and household partake of the same milk; and how vitiated (as shown in Mr. Gay's paper) even good milk becomes by "standing," how much more by standing in the atmosphere of the lying-in chamber; and how readily this one fluid becomes an originating virus, a one *origo mali* in a household, or circle of people poisoned with it, amongst whom there would be *from this one source* a differentiation and divergence of results, of phenomena of the poisonous action, of symptoms directly consequent, so that one or more would be said to be suffering from scarlatina, others from typhoid and diphtheria, or one of the other generally supposed specific and distinct ailments of which I write, the lying-in mother being attacked with what would be termed puerperal fever: all the differentiations resulting not from a difference in the poison, but of the persons brought under its influence.

The experiments of Pasteur on chicken cholera are well known. In hope of diminishing the infective power of this organism, *he grew it in oxygen* for a long time, and then found, not only that *it produced a modified disease*, but that this attack in most cases protected the animal from the effects of the organism in *their most virulent state*!—*Brit. Med. Journal*, 31st December, 1881. Page 1,062.

ing, which was under my care in 1875, in which scarlet fever symptoms obtained, but which, recognised to be wholly the consequence of a morbid condition of the uterine system and its excretions, in fact begotten and conceived *in utero* from putrescing matters therein, I treated accordingly, by grasping the soft spongy uncontracted uterus with my hands, compressing it, expelling thereby the retained and offensive clots, washing out the vagina and uterus by means of Higginson's syringe—Condy and warm water being used every two hours till the lochia became quite inodorous. Had I, however, seen the patient for the first time when those scarlatina symptoms were fully developed, and had I overlooked her puerperal state and the condition of the uterine system, I might have erred in supposing I had to deal with scarlatina from a previously infected person or thing, have overlooked the *de novo* origin of the case—the latent uterine mischief—have neglected the ablutions and cleansing processes, have treated the ailment in the orthodox fashion as being contracted from previous scarlatina infection, and no doubt have lost my patient. But being alive to the puerperal facts and bearings to which I have drawn attention, I at once proceeded as I have described, and the correctness of the diagnosis was evinced by the immediate improvement in the lady, commencing as it did from the very time I got rid of the offensive clots and washed away the noisome lochia. Within twelve months I had three cases of puerperal blood-poisoning, in which not alone was scarlatina rash well marked, but also the other symptoms of scarlet fever. I had learned from my first case valuable knowledge by which I have profited, and these later patients I accordingly treated as suffering from toxæmic scarlatina. Some time ago I had, in consultation with Dr. Joliffe, of Shepherd's Bush, a case of typhoid fever, in which relapse occurred while convalescence was advancing and desquamation—as truly marked as in what would be termed a typical case of scarlatina—was actually taking place. In the same house where lay this sick mother some of the youngest members of the family had previously been affected with scarlatina, others having suffered from what is termed scarlatina throat, while others again were at the time complaining of the same, the cause of the outbreaks being, as far as could be discovered, the defective drains, which allowed regurgitation of noisome smells and vapours into the house.

Since 1875, when I first entered upon the study of this question—the unity of poison and differentiation of resultant

phenomena which we call symptoms—my researches have made clear to me what before I had not recognised; and out of much mistiness, obscurity, and chaos of facts, ideas and thoughts, clearness and definiteness have been evolved in my mind, so that what was to me—as to every observer in a new path—at first vague, indefinite, unshaped, has become certain and embodied in realities. What at one time I feared to be incapable of proof has come to be more and more provable till it has at length become proved; what at one time from former teachings and consequent prejudice seemed to me to be false has gradually opened out to me as true, till it has come to be established in my mind as a great truth.

CURRENT TOPICS.

GALLWEY FUND.—We are glad to notice that the appeal made to the friends of the late Dr. J. H. M. Gallwey, on behalf of his widow and family, has been met in a kindly spirit. The amount collected, £460, shows that Dr. Gallwey has not been forgotten in Glasgow or by his friends elsewhere. Those who had been associated with him during his student life here always looked back with pleasure on the association, and to them the announcement of his early and sudden death came as a distinct shock. It is some satisfaction to think that those who were dependent on him, and whom he unfortunately left practically destitute, are now at least partially provided for.

OPERATIONS OF THE SANITARY DEPARTMENT, GLASGOW.—The quinquennial report furnished lately by the sanitary inspector of the city, Mr. K. M. Macleod, is a document which, while full of interest to the medical practitioner, serves to give some notion of the immense variety and importance of the duties performed here by the members of the sanitary department. Some of those we propose noticing, as something of the working of this department, and of the benefits which the citizen may enjoy *gratis* through its means, should be known by the profession throughout the city generally.

Under the head of "Nuisances," Mr. Macleod reports that in dealing with structural defects in soil-pipe joints, drains, &c., which are usually very inconveniently placed for thorough examination, the difficulty in discovering these defects is now, to a very considerable extent, overcome by the free use of the *smoke test*. This is applied by a small machine with powerful fanners, which blow the smoke of ignited cotton waste, saturated with oil, into the whole drainage system of the tenement operated on; the smoke which issues from all holes, imperfect joints and connections, discloses their site with perfect accuracy. This process is superintended by the district inspector, in presence of a tradesman employed by the owner; and when the leakages discovered are closed, the efficiency of the repair is tested by a reapplication of the smoke test, and of all this a written report is given to the owner. The whole inspection is carried out by the authorities *free of charge*. "This laudable undertaking in the interest of the citizens cannot be too widely known or too largely taken advantage of, sewer gas being, it is well known, not only subtle in its diffusion, but is believed to be almost odourless in some of its forms."

In connection with this department, also, advice is given by the inspectors regarding lighting and ventilating arrangements in dwellings, factories, workshops, &c.; drawings are furnished where required, and every assistance is given during the progress of work to secure satisfactory results.

The regulation of lodging houses also appears to provide a good deal of work for the department. In connection with this, an interesting report is given of an experimental trial of the dry closet system at one of the lodging houses. The plan is said to have given great satisfaction, and the reporters state that "the arrangement possesses principles calculated to secure complete success in the object aimed at." By an ingenious arrangement the air of the closet was carried up to the outside of the roof of the house, while the gas jet, being placed in the ventilating shaft, with a pane of glass in front of it, served to keep up a good current of air in the shaft and to light the closet at the same time. With an average nightly population of 280, there was no perceptible smell at any time. The full pans being removed periodically by the cleansing department, and fresh clean ones substituted, the excreta are kept out of the sewers, saved and utilised; connection with the sewers and the dangers which result therefrom are obviated, while the expense of plumber work which water closets involve is saved.

Under the heading "Infectious Diseases" much good work is reported on, more especially in respect to the disinfection of clothes, bedding, houses, &c. In order to put an end to the dangerous practice, which had long been pursued, of washing infected clothing in tenement washing houses, the authorities provided a specially appointed washing house, to be directly under their own control, where all washings of this kind are carried out for the citizens *free of charge*. The number of articles thus disinfected and washed has been steadily increasing, from about 30,000 during the first year, to 240,000 during the first nine months from the transference of the work into the hands of the Sanitary Department. This increase is shown not to be due to any increase of fever, but to an increasing appreciation of the services of this branch of the department. As the work has developed to such an extent of late, it has been decided to provide further accommodation—a new wash house with double the area of the present one, a more abundant hot water supply, additional drying stoves and machinery for more speedy and economical disinfecting and washing.

The difficulties with which the sanitary authorities have had to contend in their operations under the *Food, Drink, and Drugs Act*, are described at some length, more particularly the adverse legal decisions under the famous 6th Section (the "nature, substance and quality" section) of the Act of 1875. It is well known that the action of the authorities was much hampered by the decisions given in several cases, especially milk cases; more recently, however, the favourable view of their position taken by the Court of Session in a test case must materially strengthen the hands of those whose business it is to protect us from being poisoned by adulterated food.

This report further describes the operations of the sanitary department in relation to Bake House Inspection, Regulation of Slaughter Houses, the Contagious Diseases (Animals) Act, the Dairies, Cow Sheds, and Milk Shops Order, Lavatories, Reception Houses, Vaccination, Protection of Infant Life, Relief for the Unemployed, Drinking Fountains, and so on. The amount of work, and the degree of watchfulness which it indicates, ought to prove very satisfactory to the citizens, whose interests seem to be so well looked after.

VIVISECTION.—A valuable "Memorandum of Facts and Considerations relating to the Practice of Scientific Experiments on

Living Animals, commonly called Vivisection," has been issued by the Association for the Advancement of Medicine by Research, dealing with the whole question in a most comprehensive manner in the limited space of fourteen pages. It forms one of the most effective, because most concise, of the many statements of the physiologists' side of the argument which has yet appeared. As the subject is one which has been tolerably well threshed out recently, we need only draw attention to this paper, the calm judicial tone of which should carry conviction into the mind of all but the most rabid "bestiarists." This is the kind of document which we hoped to see issued by the influential Committee on Vivisection got together in Glasgow this time last year or a little later. What has that Committee done? It included representatives from all the medical bodies in town, and much interest was taken in the various discussions held on the subject, but what has been the practical outcome of it all? No report, so far as we know, has ever been rendered.

REVIEWS.

Die Krankheiten der Frauen. Aerzten und Studirenden geschildert von Dr. HEINRICH FRITSCH, Professor der Gynäkologie und Geburtshülfe an der Universität zu Halle. Braunschweig: Friedrich Wreden. 1881.

The Diseases of Women. By Dr. HEINRICH FRITSCH.

As its title indicates, this work, consisting of rather more than 400 pages, with 159 woodcuts, is intended as a text-book for practitioners and students. The opening chapters on the anatomy and physiology of the female pelvic organs, although concise, are yet clear and inclusive: the connection between menstruation and ovulation being very fully discussed. In speaking of the various positions for examination, the author, like most continental gynaecologists, gives the preference to the dorsal, because it permits of easy access, and especially because it is peculiarly favourable for combined or bimanual examination. In the volume this method is so often referred to, and, for that matter, justly, recommended, that one is reminded, of

the refrain of the German students' comic Gynækologikum Hysteropoeticum—

“ Die Untersuchung wird nur klar
Wenn sie 'ne kombinierte war ! ”

In this country we find that women prefer the left lateral position, which, amongst other advantages, has this: that what is going on is so far concealed from the patient. It is also much easier to use certain instruments, the sound for instance, in this position, and the author admits the fact, and recommends the position in various parts of the work. He deprecates the use of special examination tables, and thinks that an ordinary hard couch is all that is necessary for ordinary purposes. As he remarks, anything like an operation table to which a woman has to mount by steps as to a scaffold is apt to deter her from submitting to examination.

In the way of specula, three forms are recommended: the milk glass (tubular) speculum, where it can be easily used, and when it is necessary to protect the vagina from caustic fluids; the bivalve of Cusco for ordinary use; and Sims' duck bill for operations on the cervix or vagina. Of the various means employed for reaching the interior of the uterus, dilatation by means of laminaria tents, and rapid dilatation by steel dilators, especially that of Schultze with antero-posterior blades, is recommended. The author thinks that sponge tents of all sorts, carbolised or otherwise, should be banished from practice, on account of the danger from sepsis. The opening paragraphs of the chapter on gynaecological antisepsis are worth quoting, as showing what is now commonly practised in Germany. “A great number of surgical proceedings in gynaecology have had, until now, the disadvantage of being highly dangerous. It is not to be wondered at that most practitioners held themselves aloof from treatment which, for comparatively slight ailments, involved the use of dangerous means. A condition not in itself dangerous to life, nor connected with such suffering as seriously to injure the general health, was treated by means which often resulted in death. The fact also that cure sometimes takes place spontaneously, even although only after the menopause, led patient physicians to recommend their yet more patient clients to wait for this event. The almost yearly recurring observation that small wounds or simple intra-uterine manipulations gave rise to exudation, peritonitis, and death, forbade to the surgeon the use of the means which, however rational, were thus proved unsafe. The greatest part of this danger was the result of infection. Since the use of antiseptics became a matter of principle, the danger of many

operations has completely disappeared. The gynæcologist ought to observe the following easily understood rules. Every instrument is to be most carefully cleaned after use. Sounds and knives, hooks and scissors, are to be dipped and rinsed in a 5 per cent solution of carbolic acid before they are used. Whoever uses a sound frequently should lift it out of a carbolic solution. Specula should be lubricated with a disinfecting material, such as 1-10 carbolic or 2-8 boracic vaseline. To wipe away vaginal or cervical mucus, one ought always to use, not old linen or lint, but clean cotton wool. If there be any breach of surface, benzoic or salicylic wool should be employed, and this also is required for tampons which are intended to remain for some time. Before every slight surgical proceeding, such as scraping out the cervical canal, scarification of the cervix, &c., the parts should be carefully wiped out with cotton wool carrying a 3 per cent solution of carbolic acid. This should also be done before the introduction of any instrument into the cavity of the uterus. Where the vagina is narrow and contains no discharge, it is unnecessary to disinfect it; but where leucorrhœa exists, it is requisite to do so, in order to avoid creating virulent or infectious secretions in the interior of the uterus. In the case of large operations, such as amputation or splitting of the cervix, it is necessary to wash out the vagina with disinfecting solutions every six hours for two days before the operation. The impossibility of thoroughly disinfecting the genital passages by one injection is clear. But when a certain amount of the solution remains in the vagina, it reaches upwards even to the os internum, and the security against infection is so much the greater. The careful application of disinfectants to the outer genitals prevents the introduction of infectious material by the speculum or fingers of the operator. Where one has to deal with not over clean patients, it is better to order sitz baths, and to see that remains of blood are thoroughly cleared away from the hair about the pubis. Never since I began to have these preparatory cleansings carried out have I had the slightest inflammation following small operations." The author then goes on to recommend irrigation during operations, and permanent irrigation for some days after, where there is the slightest rise of temperature. For these purposes he recommends a 0·3 per cent solution of salicylic acid. For permanent irrigation of the interior of the uterus Fritsch describes the method of using a Bozeman's uterine catheter with Schücking's drop tube attached. The latter consists of a tube with a stop-cock which projects into a glass bulb, from which again the fluid passes onward to the

interior of the uterus through a double catheter. As the bulb is never full, the fluid is seen running through it, and as soon as any stoppage in the flow is observed it is immediately set right.

In speaking of laparotomy and ovariectomy, the author gives extraordinarily careful directions in regard to antiseptic precautions, even to clearing out fecal matter from the bowels and passing salicylate of soda through them for a day or two before an operation, in order that gas in the bowel may not give rise to decomposition in intra-peritoneal fluids. Yet he thinks laparotomy safer without the spray, except in hospitals or houses where the air is known to be in a bad condition. His objection to it is founded on the evil effects of carbolic acid remaining in the peritoneal cavity, which evil effects, however, he does not particularise.

In the treatment of chronic endometritis the author strongly condemns the use of nitrate of silver. An albuminate of silver is formed in the canal which prevents the mucous membrane from being acted on where it is most required, and the os externum is unduly affected, leading afterwards to stricture of that orifice. He believes strong nitric acid the safest and best application, if carefully used, but that neither it nor carbolic acid should be used oftener than once a week, so that the mucous membrane may have time to recover and thus atresia be avoided.

The author discusses the subject of the connection between rupture of the perineum and prolapse of the uterus. He is of opinion that when the anterior vaginal wall becomes thickened and hyperæmic, if it be not supported by the perineum it falls downwards, dragging the uterus with it, and the congestion of that organ which results leads to still further descent and all the usual complications. In restoring the perineum he forms the wedge-shaped piece of tissue now so generally recommended, using silk sutures, and he does not employ any artificial means for confining the bowels, trusting to suitable diet to keep them closed for a few days. If necessary, an enema of simple water is used.

Gonorrhœa in the female is apt to be a dangerous and destructive disease in so far as damage to the reproductive powers is concerned. The disease extends to the interior of the uterus, and even along the tubes to the ovary and peritoneum. The fact is pointed out that long after the vagina has recovered its usual condition, the malady lingers in the ducts of the glands of Bartholin, and in the mucous membrane of the cervix, and the secretion from the former being pressed out during inter-

course, the male becomes infected. The reason of this rapid recovery of the vagina proper is that it is covered by pavement cells, and contains few or no glands.

In cases of inflammation of the bladder after operations for fistula, and generally in cases where it is desirable to keep the bladder empty, the author has a method which seems valuable, and is, so far as our knowledge goes, original. Instead of an ordinary catheter, he inserts a piece of rubber tubing, only as far as allows the urine to get into it, but not permitting it to project into the cavity of the bladder. Through this, if necessary, the organ is washed out and disinfectants applied. It is removed at least once in two days in order to free it from mucus and urine salts. If it be expelled, one of a larger calibre is introduced in its stead. In this way all unnecessary irritation of the bladder is avoided.

Like most other gynaecologists, Prof. Fritsch finds chronic metritis a most obdurate affection. Indeed, he gives it as his opinion that, owing to the treatment requiring many months, if not years, and the fact that it is very difficult to get it thoroughly kept up, the disease may be reckoned incurable. He recommends rest, cessation of intercourse, and regular bleeding from the cervix, followed by glycerine tampons. Where shrinking of the cervix and body of the uterus does not result from this treatment, he advises the use of a large laminaria tent, followed by brushing over the interior of the uterus with tincture of iodine and the subcutaneous injection of ergotine. As a still more decided measure, he practises the method advocated by Martin of Berlin, which consists in cutting out two wedge-shaped pieces from the enlarged cervix, and bringing the edges together with sutures. Partly from the bleeding and partly from the derivative effect on the fundus, recovery is said frequently to take place. Saline mineral waters, such as those of Franzensbad, Marienbad, and Kissingen, are also recommended. Erosions of the cervix are treated by scraping the mucous membrane as far as the os internum with a sharp spoon, and touching the raw surface with strong nitric acid. In obstinate cases amputation of the cervix is practised.

Where sterility and dysmenorrhoea co-exist with ante flexion, and where ordinary means have been tried and have failed, the author recommends the wearing of an intra-uterine pessary. He is careful to point out the danger of such practice, and advises that if the parts are found to be tender, an anæsthetic should be used. The patient should be kept in bed for two or three days, and her temperature carefully

observed. If there be continuous pain or raised temperature, the instrument must be immediately removed. If no bad symptoms show themselves, it ought to be kept in position for eight to twelve months; the longer it remains the more likely is the cure to be permanent. The author believes that where great care is taken and nothing done without stringent antiseptic precautions, the results are very encouraging. For very bad cases, castration, where possible, is recommended as an unailing remedy.

The author traces most cases of uterine prolapse to rupture of the perineum or want of care during, and soon after labour. He thinks it desirable, where simple cystocele or rectocele is found, to excise an oval portion of the mucous membrane in order to prevent prolapse of the uterus. Elastic ring pessaries are considered very mischievous, because although they retain the uterus for a time, yet by widening the vagina from right to left, they pave the way for still further prolapse when removed. Hodge's instrument lengthens out the vagina without stretching it to any great extent transversely, and so favours ultimate cure. Where the cervix is hypertrophied, amputation is strongly recommended not only because the cervix constitutes a large part of the prolapse, but because its removal leads to the diminution of the size of the fundus of the organ. In aggravated cases narrowing of the vagina is the only resource.

With regard to the treatment of fibroids, the author has come to the conclusion that, on the whole, the scissors is the best and safest instrument for their removal. Where it cannot be employed on account of the difficulty of reaching the pedicle, he advises the use of the galvanic ecraseur. The ordinary wire-rope ecraseur he thinks is useless except in those cases where the pedicle is not thicker than one's finger. Laparomyotomy is advised as the only possible means of relief where the tumour is sub-peritoneal, or involves largely the tissue of the body of the uterus. In the performance of this operation, he commends the use of Köberle's wire loop ecraseur for temporarily securing the pedicle, which is to be covered over by the peritoneum after the loop is removed. In connection with operations of this description, the author, who, by the way, does not use the spray, believes that, if sufficiently stringent antiseptic precautions are employed and the thermometer carefully used, the mortality would be very far from great.

The chapter on the diagnosis and treatment of ovarian tumours is very full and clear, and worthy of study even

by those who have read up the subject pretty well elsewhere.

Here and there throughout the book there are very sensible remarks as to the general management of patients. Fritsch urges very strongly that if we are to do much in the way of curing most of the diseases of women, we must be prepared to exercise great patience and watchfulness: that months may elapse before we can see any good from our treatment, and that often we are guided into the right track by finding that we have been in the wrong. He commends great gentleness and patience in dealing with such cases, and shrewdly remarks that "a rough examination is more difficult to forgive than a false diagnosis."

The volume closes with a chapter on Hysteria. This disease is believed to depend on uterine, and especially ovarian, disturbances, together with general weakness. There are no specific drugs for its cure, but everything in connection with the general health is to be minutely attended to, and the genital organs set right so far as that is possible. He thinks that in aggravated cases of hystero-epilepsy, or where the patient has actually become insane, Battey's operation is admissible.

The woodcuts, like those of most German scientific works, are very much above the average of English or American ones; a few, indeed, are quite works of art in the way of wood engraving. There are a very few errors in the text, as where, on page 131, an urethral tube is described as "15 cm. Länge und 6 bis 7 cm. Dicke." It is perfectly evident that "6 bis 7 mm." is what is meant.

This book is evidently the work of a careful, sensible man, well acquainted practically with the subjects of which it treats. To those who read German, and who are interested in gynecology, we cordially recommend its careful perusal.

On Diet and Regimen in Sickness and Health, and on the Interdependence and Prevention of Diseases and the Diminution of their Fatality. By HORACE DOBELL, M.D. Seventh Edition. Revised and Enlarged. London: H. K. Lewis. 1882.

WE took up this work with no prejudice, but we confess we began the subject-matter with one. For we had read the preface to each of the various editions first. We observed that this work was not only one "from which the doctor might

refresh his memory," but "one which he might safely place in the hands of his patients to enlighten them on some of those important points which ought to be understood by the non-professional, and to teach them how vast and intricate is the science and art of '*rational medicine*.'" Just then, somehow, we noticed on the opposite page that the author had not only carefully given his town address, but his country, or rather his coast address also, and we began to think about last week's article in *The Lancet* on professional advertising. Perhaps we should have laid the book aside; but we did not, and we admit the prejudice in fairness to the author.

We have read his work carefully through, and the conclusion we have come to is that we prejudged correctly. It is evidently meant for the popular eye, for there is little that is new to the professional reader, and we have advertising from first to last. On almost every page there are references to other works of the author, and the volume ends with "a descriptive catalogue of works by Horace Dobell, M.D.," quite a host of reading in itself, consisting as it does of twenty-three pages of titles, contents, *résumés*, and opinions of the press.

The book might have been a very useful one. There are chapters on normal diet, the diet and regimen of children, on the wholesomeness and digestibility of various articles of food, and on the modes of cooking in common use, &c., but besides the fault to which we have referred, there is continually cropping up what we are sure most people will feel to be quite a *nimia diligentia rerum*. For example, at p. 37, we (*i. e.*, people in ordinary health), are told that "warm baths, Turkish baths, vapour baths, shower baths, cold plunges, and sea baths, should only be used under special medical orders;" and should we have any doubt about this we are to refer to "the author's work *On the Mont Dore Cure*, 1st Ed." And again, at p. 191, we are informed, though to be sure in a footnote, that "every house should be provided with a registering clinical thermometer, and a book of blue litmus test paper, in readiness for sickness."

We are not left in doubt as to the author's opinion of himself and of his researches. One or two professional brethren of world-wide reputation and authority, whom we all delight to honour, are in effect patted on the back and told that they are very good and clever, but really they ought to be a little more careful about this or the other thing, which "has been familiar to me for a long time," or the interest in which was "first excited by my papers in 1864-6," and so on.

We have referred mainly to Part I, "On Diet and Regimen." There is some good writing in Part II, "On the Interdependence and Prevention of Diseases and the Diminution of their Fatality," and it would have stood better alone on its own merits.

The writer is frequently far from logical in his conclusions, but we have observed only one grammatical error—"contraria contrariis curantur."

The last paper advertised in "The Descriptive Catalogue of Works by Horace Dobell, M.D.," to which we referred, is one *On the Class of Medical Literature most needed at the Present Day*. Does the author really believe he has met that need?

Die Acuten Infectiouskrankheiten. Von Dr. BERNHARD KUESSNER, Docent an der Universität Halle a. S., und Dr. RICHARD POTT, Docent an der Universität Halle a. S. Braunschweig: Wreden. 1882.

THIS volume, the fourth of Wreden's series of *Short Medical Text-books*, treats of what we commonly designate by the name Specific Fevers. The introduction commences with a brief discussion on the nature of infection, leading to the conclusion that the cause of infectious diseases is to be looked for in micro-organisms. The conditions in which these develop outside the body, and the paths by which they enter it are adverted to, Nägeli's views as to ground-air, and Pettenkofer's as to ground-water, being stated with approval. From the present imperfect state of our knowledge as to these organisms in their relation to fevers, it is impossible to give a perfect classification of infectious diseases; that adopted by Kuessner is as follows:—

1. *Miasmatic* diseases—the germs of which develop outside and independently of the human organism, and can never be carried from one individual to another; *e. g.*, all malarious fevers.

2. *Contagious* diseases—the germs of which can, by contact (mediate or immediate), be carried from one individual to another, and develop and multiply in the human organism; it is probable that they can also multiply in other media than a sick organism; *e. g.*, typhus, relapsing and the acute exanthems.

3. *Miasmatic-contagious* diseases—the germs of which originate outside of the human organism, into which having entered, they multiply and are again separated; but after

their separation they have yet to pass through another stage before they are able to infect. They thus possess a sort of alternate generation; *e. g.*, typhoid, cholera, yellow fever, and plague.

In the book before us the description of the acute exanthems is allotted to Dr. Pott, while that of the others falls to Dr. Kuessner. The plan of the work is somewhat similar to that adopted by Murchison; each disease is treated of under the headings—ætiology, symptomatology, complications and sequelæ, pathological anatomy, differential diagnosis, prognosis and treatment, a brief description of the disease preceding the detailed examination of its various symptoms, &c. It would not be fair, however, to institute a comparison between this book and Murchison's, this being a work intended to bring together, within a moderate space for the use of students, the leading facts that have been recorded with regard to fevers up to the present time. The object of the work has been carefully kept in view; the matter is well arranged, and the information full and up to date.

Perhaps the most interesting chapter is that on typhoid fever, and from the fact that it embraces a fourth of the book (115 pages) it would seem to have been so also in the eyes of the author. Kuessner does not admit Murchison's pythogenic theory, but believes that the germs are tenacious of life, and survive for long periods in the ground, &c. He also denies that it is contagious; he classes it among the miasmatic-contagious fevers, the germs after leaving the body requiring to pass through a stage of development outside of it before they acquire their infectious character. Contrary to the belief common in this country, he asserts that the germs most frequently enter the organism by the lungs, although he admits that in some cases infection has occurred through the medium of drinking water and of milk, the latter especially in England. As to the exact nature of the infectious germ, a brief summary is given of Klebs' and Eberth's observations.

The section on the treatment of enteric is specially interesting, as giving a German's view of the antipyretic treatment. Kuessner differs from Liebermeister both in theory and in practice. He cannot admit that the rise of temperature is the dominating symptom; and he condemns in no measured terms the cold bath treatment. He holds that the duration of the disease is not shortened by it, and that a bath at 20° C. (68° F.), especially when repeated twelve times in twenty-four hours, is so obnoxious to patients that it does more harm than good.

He also instances the fact that medical men who have themselves had the misfortune to be the objects of this treatment, have become "desperately" opposed to it. He goes so far as to ascribe part of the rise of temperature which follows on the cold bath, to the mental depression and anxiety caused by the treatment. In his own practice, however, he uses Ziemssen's modification of this treatment—viz., putting the patient into a bath at about 95° F., and by adding cold water gradually reducing the temperature to about 75° F. The other elements of the antipyretic treatment he has but little personal experience of.

Among the many good qualities of this book, there is one blemish which cannot be overlooked; we refer to the entire absence of temperature-charts, and illustrations of fever rashes, pathological conditions, &c. This ought to be remedied should a second edition be called for.

Hospitals: their History, Construction, and Hygiène (being a thesis for graduation at the University of Edinburgh, for which a gold medal was awarded.) By J. FRANCIS SUTHERLAND, M.D. (Edin.), Surgeon to H.M. Prison, Glasgow, &c., &c. Pp. 152. Edinburgh: C. & S. Livingstone.

THIS is a thesis presented by Dr. Sutherland in March 1879, to the Medical Faculty of the University of Edinburgh, for the degree of Doctor of Medicine, and published in the present year. The subject is treated in eight chapters, consisting of an introduction; a slight history of the past and present of hospitals; a discussion of the principles which ought to direct the selection of a site; of their dimensions, construction, and the internal distribution of their parts; of short descriptions of the most notable ancient and modern hospitals; of their æration, including ventilation, warming, and light; of hospital hygiène, with a conclusion and bibliography.

The most interesting and valuable portion of this book is the descriptive, to which more than one-third of the whole is devoted. In it we have the fullest account in our language of that *bijou* hospital, the Hertford British Hospital, erected by the munificence of Sir Richard Wallace, for the use of the British residents in Paris. The author was, at the date of the composition of his essay, right in saying that there was no published account "giving a complete statement of its

peculiarities and outstanding features, with especial reference to the wards, their ventilation, lighting, and heating ;" but in the *Revue d'Hygiène*, for December 1881, there is an excellent description by the architect, M. Sanson, with a plan of the *premier étage*, in which the wards are placed. The precise educative value of this hospital, as an example, could not be better put than in the words of a speaker at the meeting of the *Société de Médecine Publique*, before which this description was read :—" It may be said that Sir Richard Wallace has produced a fancy hospital. That may be, but his fancy is worthy of attention, of study, and I will add, of praise. It may be said that the task submitted to M. Sanson was to meet an entirely unique case. That is true ; but it is calculated to stimulate those who sometimes think of the hard lot of the sick who are treated in the aggregate. It may be said that at the Hertford Hospital each bed cost £1,250. That also is true, but this sum provides not merely a luxury of space, of æration, of light, which economy does not provide, but an atmosphere of cheerfulness which surrounds the patient with a kind of moral healthfulness. I beg of you, gentlemen, to visit and inspect the hospital built by our colleague, M. Sanson, There you will find English comfort everywhere apparent, garnished with a nicety of hand which is rare and wholly French."

In other respects Dr. Sutherland's accounts of recent hospitals have lost their freshness and novelty by his delay in the publication of his essay. Dr. Mouat's admirable series of papers, contributed to the *Lancet* a year ago, have introduced to us all the crack erections of the day, such as the Hôpital Tenon in Paris, and the Johns Hopkins (not *John* Hopkins as Dr. Sutherland invariably writes the name) Hospital, Baltimore, which Dr. Sutherland describes, and others in France, and Germany, to which he makes no reference. To one who has seen the wonderful Baltimore hospital, erected from the plans of Dr. J. S. Billings, under his autocratic supervision, with his fertile intelligence and a bottomless purse to administer, a page must seem a very poor allowance of space for what can only be called an allusion to it. We take this opportunity of directing the attention of architects and all who are interested in hospitals to a volume published in 1875, in New York, entitled, "*Five Essays relating to the Construction, Organisation, and Arrangement of Hospitals, contributed by their authors, for the use of the Johns Hopkins Hospital of Baltimore.*" These

were written in competition by five selected American doctors, and are accompanied by five sets of plans, which, with their associated text, form a volume worthy to stand alongside of Tenon's great works. Dr. Billings was the successful essayist, and his paper, like everything which proceeds from his pen, is a model of terse, lucid, and exhaustive discussion of a practical question. The inauguration of this hospital, with its school of medicine and nurses training home, will mark an era not merely in hospital construction, but in medical education and research, for which it has from the draft of its constitution, and the foundations of its structure, been carefully adapted.

We can scarcely reconcile Dr. Sutherland's estimate of the new Edinburgh Infirmary, as "what is admitted by general consent to be the handsomest and most perfect public hospital in Britain, if not in the world," with the defects which he himself subsequently points out in his more detailed description. We read there (1) that "one pavilion overshadows another," and that while "the space between the medical pavilions is thoroughly ventilated, and a large amount of sunlight strikes upon the walls, unfortunately the same cannot be said for the surgical pavilions," this absence of sunlight being aggravated by opaque glass in the windows, which he strongly condemns. (2) That "the floors are of soft deal," which is "inferior to oak or dried wood," and which has already been invaded by "dry rot," which "took possession of the timber, rendering the floors and corridors unsafe for walking, and necessitating their replacement by better material." (3) He condemns "so many fire-places" in the wards, as likely to be incompatible with the action of the foul air flues, and says of the ventilation—"On the success of this complicated scheme of ventilation we require precise scientific data before pronouncing a decided opinion." (4) He says the W.C. accommodation is "inadequate," and adds, "it is a pity that there, as in private dwellings, the closet pipes are concealed by woodwork. In every water closet the syphon trap should be visible, and easy of detection. But a greater defect than this is met with in connection with the waste pipes, which run direct into the sewer. Such a disposition of the waste pipes will not meet with the approval of sanitary engineers, such as Baldwin Latham, and Fleeming Jenkin, who, for obvious reasons, insist upon interposing a Somerset or Honeymann trap between the waste pipes and the sewer." (5) Lastly, we learn that "the patients' lifts, the food lifts, the dust shoots, and the foul linen shoot, ascend from the corridor in the basement to the attics. The danger of frustrat-

ing isolation, which is the *raison d'être* of the pavilion system, has led to the non-usage of the latter shoot, since through it, as through the dust shoot, impure air has every chance of ascending to the different storeys." After this trenchant and well merited exhibition of so many glaring and radical defects permeating the whole arrangement and internal structure of this cumbersome and extravagant hospital, it is not surprising that Dr. Sutherland should, forgetful of his previous unmitigated encomiums, descend to this more modest, though still exaggerated estimate of its position:—"In spite of defects that might have been avoided, there can be no doubt that the Edinburgh Royal Infirmary is an excellent example of a pavilion hospital."

We prefer the Western Infirmary of Glasgow, which we agree with our author in thinking, "for situation, construction, and internal arrangement, has few equals." Yet in spite of the statement that "the latrine arrangements at the corners of the extreme ends of the wards leave little to be desired," we think that the absence of cross ventilation in the passage to these annexes is a serious defect. Had this zone of isolation been provided, had the corridors connecting the pavilions been cut down so as to admit more sunlight between the northern pavilions, and permit of perfilation of air through the somewhat confined and shaded northern courts, and had the stair landings been kept as air spaces in the old as in the new portion, not cumbered with dark bath rooms and superfluous apartments, the Western Infirmary would have been all but faultless; as it is, taking it all round, it is the best we have seen. Curiously enough, at p. 55 of his work, Dr. Sutherland refers to the Western Infirmary as an illustration of the best disposition of pavilions—viz., "that in which they are parallel and united to each other and to the administration, by a rectilinear corridor *with terrace above*." This is precisely what this hospital wants to make it a perfect sample of a modification of the purely pavilion style to meet the necessities imposed by the great value of sites in large towns.

While we have thus somewhat closely scrutinised and sharply pointed out defects in Dr. Sutherland's work, we commend it to a place in the libraries of architects, and to the notice of hospital building committees and superintendents, as an extremely useful little book, especially on account of the numerous admirable plans and illustrations which it contains, which are here collected ready to hand, and could otherwise be obtained only at the cost of much trouble from many and distant sources.

The Surgery of Deformities. By E. NOBLE SMITH, F.R.C.S.Ed.
London: Smith, Elder & Co. 1882.

THIS is a small, fairly digested compilation on the subject of deformities. The chapters on club foot and hip joint disease are worthy of perusal, giving in a condensed form most of what is at present known on the subject. Spinal deformities occupy a considerable portion of the work, their pathology is clearly stated, and their treatment is concise. Sayre's spinal jackets and their method of suspension are disapproved of—"the extension of the spine in this rough and unscientific manner must always be attended with a considerable degree of risk." Poroplastic jackets, the author thinks, are even less efficacious than the plaster of Paris bandage. He advises Mr. Chance's adaptable metal splint in preference to either: Mr. Smith stating that it can be adjusted and readjusted by the surgeon himself, and altered when necessary during the progress of the case. Drawings of Chance's splint are given, and from them it looks rather a complicated mechanism; but probably any such instrument must be complicated. Spina bifida has a few pages devoted to it, in which we recognise a couple of drawings from Morton's work on the subject—the drawings have improved by the transference. Morton's injection of iodine and glycerin, the author considers, ought to be adopted, when any operation is desirable. Rickets is treated of briefly, genu valgum being placed under this heading. In the pathological anatomy of genu valgum he seems to imagine that Macewen measures the relative lengths of the condyles by a line passing through the knee-joint, the angle in that case being altered according to the width of the pelvis and the length of the femur; whereas we understand that Macewen measures the condyles by their intrinsic length, without reference to the angles formed. The author is an advocate for splints as a remedy for knock-knee up to 12 years of age, and even in some cases up to 21 years—if we gather aright from the statement that "the deformity has been known to be removed in some individuals by such treatment at the age of 20 and 21 years." This is one of the peculiarities of the London orthopædic school of the present time, arising, probably, from its want of confidence in antiseptics, and, on the other hand, from its adherence to preconceived opinions.

On the whole Mr. Smith has produced a readable and tolerably complete manual on orthopædics, of use to students and practitioners.

Rheumatism: Its Nature, its Pathology, and its Successful Treatment. By T. J. MACLAGAN, M.D. London: Pickering & Co. 1881.

DR. MACLAGAN'S name is so well known in the profession in connection with the treatment of rheumatism by salicin, that this systematic treatise will be generally hailed with satisfaction. In this book Dr. MacLagan explains at length his views as to the miasmatic origin of rheumatism; and he endeavours to show that this theory is not incompatible with the lactic acid theory, or with the well known facts of hereditary tendency to this disease. His reasoning is full of ingenuity, and he puts forward his doctrine in a very readable form.

Another interesting point which he discusses is the difference between the transient effects of an ordinary attack of acute rheumatism on the joints, and the permanent damage, so often left by such an illness, to the valves of the heart. He ascribes this in great part to the impossibility of the cardiac structures obtaining the rest which the violent pain at once secures for the limbs.

The section on Treatment is, however, the one which most readers will turn to with the greatest interest. Dr. MacLagan adheres to his preference for salicin over salicylic acid or salicylate of soda; and we are disposed to agree with him that salicin has certain important advantages over these other remedies, as being less likely to produce dangerous or alarming symptoms. We can scarcely, however, endorse his almost unqualified praise of this medicine in rheumatism; in common with others we have found it disappointing in certain cases. The author discusses at some length the question as to whether salicin is converted into salicylic acid in the system of the patient.

We can recommend this book as well worthy of a careful perusal, both in its theoretical and practical sections.

L'Année Médicale, 1881. By Dr. BOURNEVILLE. Paris: E. Plon & Cie. 1882.

THIS handy little *résumé* of the progress of medical science during the past year is published under the direction of Dr. Bourneville, editor in chief of *Le Progrès Médical*, aided by twenty-two other gentlemen, who look after special departments of the work. It is now in its fourth year, a fact which

indicates the degree of appreciation with which it has come to be regarded. The notices given of the papers and subjects discussed are necessarily brief, but they represent fairly the essence of the argument in each case. Naturally, the literature most largely drawn upon is continental; but it will be found that English and American literature is not forgotten, indeed is perhaps more abundantly quoted than in most foreign year books. While the bulk of the book is devoted to medicine and surgery, considerable space is allotted to anatomy, physiology, obstetrics, and gynaecology. The therapeutical section is unduly short, however, taking up, as it does, but fourteen pages. The whole progress made in hygiene, also, so far as known to the writer, is summed up in six pages. A "review of the year" is added in this volume for the first time, consisting of the obituary list for 1881. Under the heading "England," we find only the name of Dr. MacClintock, of Dublin, the editor apparently not being aware of the deaths of Andrew Wood, Professor Sanders, Rolleston, Hayden, and many other distinguished members of our profession. This is a reliable handbook of the year's work, however, so far as it goes, and is specially useful in giving a condensed and tolerably exhaustive review of the continental, and more particularly French, medical literature of the past twelve months.

Ringworm: Its Diagnosis and Treatment. By ALDER SMITH, M.B.Lond., F.R.C.S. Second Edition. London: H. K. Lewis. 1882.

IN reviewing the first edition of this book some time ago we took occasion to express a very favourable opinion regarding it; and it would seem that the profession at large has been of much the same mind, as we have here the second edition, "re-written and enlarged." The degree of enlargement is quite obvious, as this edition is more than double the size of the last; but that the work is thereby much improved we greatly doubt. It gives the impression of being too large for the amount of information it conveys; and is, moreover, greatly disfigured by the unusually free use the author makes of italics on every page, this oft recurring emphasis irritating the eye and distracting rather than arresting the attention. A number of tolerably good plates have been added, the value of which would have been increased had they been accom-

panied by a statement of the degree to which the parts are magnified.

The distinguishing feature of this work is its plain and practical character, based, as it is, on the author's personal experience. It abounds in hints of the utmost value to the practitioner, such as the manner in which the examination of a suspected case should be conducted, the diagnosis of ringworm of different varieties (recent, chronic, disseminated, diffuse, pustular, &c.), the appearances which justify us in certifying a case as cured, and the general duty of the medical attendant in relation to the occurrence of ringworm in schools. Treatment also, which must be carefully adapted to the special case and the variety of the affection, comes in for very full and detailed consideration, much prominence being given to the artificial production of kerion in very chronic and obstinate cases.

In the part of the book devoted to diagnosis, some weak points might be pointed out; in particular, the diagnosis of ringworm from favus (p. 29) is so short and uncertain as to be of very little use to any one in a difficulty. In his remarks on what he calls "alopecia areata, or tinea (?) decalvans" also, the author touches on matters regarding which there is ample ground for great difference of opinion. We believe he is right in stating that this affection "is due to a state of perverted nutrition, and *not* to any vegetable parasite;" and thus far he represents the opinion generally adopted in the profession; but he seems to us to be scarcely so accurate in some of his subsequent statements. Thus, he says—"Alopecia areata is often mistaken for ringworm, and treated as such," and he mentions cases in which "the patches of alopecia were scurfy, and contained many long hairs and numerous stumps." This must be an experience of a very rare and unusual character, for while a very chronic species of ringworm, well described by Liveing, is every day mistaken for alopecia areata, it very seldom happens that the mistake which Mr. Smith describes is made. Moreover, his description of the appearance of the short broken hairs or stumps found in what he regards as alopecia areata, and the figures of these appearances which he gives in Plate IV, are precisely those which we have found in most of those cases of ringworm which so closely simulate alopecia areata.

In this little treatise, then, scarcely any attempt is made to discuss, from the strictly scientific side, the nature and pathology of ringworm, the life history of the fungus, the possible dependence of ringworm, favus, and tinea versicolor on the

same parasite, and many such questions. As indicated in the preface, its main characteristic is that it is thoroughly practical, and it is on account of this that the practitioner will most prize it. It should be carefully read by all who are in the way of meeting with this "insidious and very troublesome complaint;" and who is not?

Lock Hospitals. By FREDERICK W. LOWNDES, M.R.C.S. Eng.
London: J. & A. Churchill. 1882.

IN this most interesting pamphlet Mr. Lowndes gives much needed information regarding the rise, progress, and present position of lock hospitals, institutions concerning which much ignorance prevails both outside the profession and within its pale. Thus, it is startling to learn that, in the whole of the United Kingdom, there are but six voluntary lock hospitals, making up only 232 beds for females and 45 for males; and the very precarious position of these hospitals is shown in the fact that if they had anything like the support they are entitled to, or such as is readily given to other hospitals, they could make up nearly double that number of beds.

The origin of the term "lock hospital," which has long been a stumbling-block to philologists, is here explained in connection with the history of the London Lock Hospital, the oldest of the kind in the country. Quoting from an old record we read, "This was anciently a house for the reception and cure of lepers, but at present (1770) it belongs to St. Bartholomew's Hospital, and is appropriated to the cure of venereal patients." This, the author says, explains the origin of the word "lock" hospital, the lepers being under restraint. This derivation is perhaps a little far-fetched, but it may be accepted in default of a better.

Mr. Lowndes gives a short historical sketch of the six lock hospitals referred to, noticing the causes which tend to keep them so much in the background and so short of funds; and he shows that, while special lock hospitals are few, most of the larger hospitals and infirmaries have no accommodation for venereal cases, and from some, indeed, such cases are expressly excluded by rule, or by Act of Parliament; and he closes with a powerful appeal for the extension of a more generous support to, and a multiplication of these very useful institutions. In his account of Glasgow Lock Hospital (the only one of its kind, we learn, in Scotland), the author "cannot agree

with the medical officers, Drs. Dunlop and Patterson, in thinking that a reduced number of admissions means a reduced amount of disease in the city generally. Unfortunately, reviving trade and the large consumpt of alcohol have a direct tendency to keep prostitutes out of the hospital."

REPORTS OF HOSPITAL AND PRIVATE PRACTICE.

GLASGOW ROYAL INFIRMARY.

REPORTS UNDER THE SUPERVISION OF DR. WM. MUIR.

FROM MR. H. E. CLARK'S WARDS.

(Under the care of DR. FLEMING.)

CASE OF STRANGULATED FEMORAL HERNIA. [Reported by C. S. Young, L.F.P.S., Resident Assistant.]—J. T., æt. 69, was admitted to Ward XVI, suffering from a swelling in right groin. Patient had noticed this swelling for the first time about six years ago, but about three years ago, feeling it becoming larger, he consulted a surgeon, who diagnosed it as a hernia, and ordered a truss. Since then he has worn this instrument regularly.

On the 13th March, about three in the afternoon, while at work, but not exerting himself, he felt the hernia coming down. Failing to reduce the swelling, he sent for a medical man in the evening, who also failed to reduce it and sent him to the Royal Infirmary. On admission at 3.30 A.M. patient seemed pretty well; he had been sick, but there was no stercoraceous vomiting. He complained of pain over the hernia, which was found by the house surgeon to be femoral, turning up over Poupart's ligament. Tumour was very tense and firm.

Taxis with the aid of chloroform having failed, Dr. Fleming, who was sent for in Mr. Clark's absence, proceeded to operate about 7 A.M. Ether was administered. No particular difficulty was experienced in reaching and opening the sac, which, however, was very thin. About one drachm of sero-sanguineous fluid escaped. The hernia was found to consist almost entirely of omentum, with a piece of bowel about

the size of a small walnut below and to the outside. The omentum was firmly adherent to the sac in many places, and great difficulty was experienced in finding the place where the bowel was constricted. It was only after freeing several more or less rigid portions of the edge of the abdominal opening, and then pulling down more of the bowel and omentum into the wound that it was discovered that the structure consisted of a firm band of omentum tightly grasping the knuckle of bowel, and not of any part of the structures of the canal. So closely did this grasp the bowel that it was with considerable difficulty that a blunt aneurism needle could be passed beneath it. This, however, was done, the band double-ligatured with catgut and divided between. So tight was the constriction that a director could not be passed without using undue force, but the curved needle had again to be introduced, and the band carefully dissected through upon it. As soon as this was effected, reduction of the bowel and of part of the omentum, which had not been removed, was quite easily accomplished. A few carbolised silk stitches and a hair drain were introduced, and the wound was dressed antiseptically. The patient was an hour and a half under ether, which he took very well.

His subsequent recovery was uninterrupted. He was altogether twenty-six days in hospital.

PRIVATE PRACTICE.

REPORTED BY JOHN TAYLOR, M.D., GLASGOW.

NOTE OF HUNTERIAN CHANCRE OF THE LIP.—Marion G., aged 19 years, residing at Caledonia Road, consulted me on 2nd June, 1882, regarding a sore on her lower lip of some ten days' duration. It was covered by a yellow scab, felt indurated and somewhat elevated, was about the size of a threepenny piece, and, together with its hard surroundings, felt in the substance of the lip like a field bean. It had, I was told, resisted such applications as lip salves and preparations of borax. On palpating in the submaxillary regions, I discovered swelling of the glands there and behind the angles of the jaws; these facts, together with her occupation—*puella publica*—led me to recognise the sore as specific. She was

at once placed upon a course of red iodide of mercury, and for a local application I dressed the chancre with lint soaked in black wash and secured in position by a split cloth tied behind the neck and over the head after the manner for fractured or dislocated maxilla. In the course of a few days I was called to see her, owing to the onset of great pain in the scalp; on examination I found the tissues over one parietal bone extremely tender and a little tumid. I diagnosed the complication as one of acute pericranitis, and began treatment by the application of a few leeches, most of which, however, declined the treat, being either disgusted by the amount of hair perfumery or not finding her flesh sufficiently savoury, so I had to content myself with the amount sucked by one fellow less reluctant than the others, and from whom, when once firmly attached, I snipped the tail, and holding a tumbler beneath him obtained drop by drop a discharge equivalent to the engorgement of two or three leeches. The patient then had sleep obtained at nights by chloral draughts, and in the day-time continued her mercurial, to which large doses of iodide of potassium had in the meanwhile been added; to these measures, after a time, both the periostitis yielded and the sore, losing its hardness, healed up. But only lately again she has come under my notice for the cure of secondary symptoms in the shape of a measly rash on her chest, and for sore throat and considerable aphonia. The case now, of course, resembles one in the ordinary run of syphilitic examples.

Primary syphilis, resulting as it does from the application of the virus to the natural points of contact of one individual with another, makes its appearance on the genitals or more rarely in the case of the nurse on the nipples, and rarely is seen in our country on any other site; but in France it appears, I find on consulting Allingham's work on *Diseases of the Rectum*, to be often seen not only on the lip, but also on the anal verge. As far as the lip cases are concerned, probably it may be got by using the same pipe or culinary articles as one affected with mucous plaques or specific sore throat; but, in the case I have just described, the unfortunate girl acquired the disease by the direct insertion and unnatural application of the penis to the part.

M E D I C A L I T E M S .

UNDER THE DIRECTION OF
ALEX. NAPIER, M.D.

The Constitutional Effects of Iodoform used as a Surgical Dressing.—The following articles on iodoform poisoning have recently appeared in various German medical journals. Max Schede, *Centralblatt f. Chir.*, 1882, No. 3; Hoeftmann, *ib.*, 1882, No. 7; König, *ib.*, Nos. 7, 8, 17, and 22; Mosetig-Moorhof, *ib.*, No. 11, and *Sammlung Klin. Vorträge*, No. 211; Kocher, *Centralbl. f. Chir.*, Nos. 14 and 15; Bum, *Wien. Med. Presse*, 1882, Nos. 7 and 8; Czerny, *Wien. Med. Wochenschr.*, 1882, Nos. 6 and 7; Henry and Aschenbrandt, *Deut. Med. Wochenschr.*, 1881, No. 34, and 1882, No. 8; and Binz and Högyer, on experiments on animals, in *Archiv f. Exp. Pathologie*. These articles, or summaries of them, may be found in the *Centralblatt für Chirurgie*, 1882, Nos. 3 to 22.

The various writers agree very closely in their description of the symptoms. Schede describes them in considerable detail, and so does König, who gives clinical details of 48 cases collected from various quarters. König's summary, somewhat condensed, is as follows:—

"1. While in the great majority of cases iodoform produces no other symptom than very rapid, secretionless, and aseptic healing, there occurs in a certain proportion of cases general disturbance, which may be slight or severe, and even fatal. The disturbance consists in morbid alterations in the action of the brain and heart, and as a rule the cardiac symptoms predominate. The more severe forms are the following:—(a.) After sudden increase in frequency of the pulse, with diminution of its strength, there occur sleeplessness, great restlessness, delirium, hallucinations, delusions, incoherence, melancholia, refusal of food. These symptoms may quickly pass away, or may persist for weeks, and then still end in recovery, or in death from cardiac or respiratory failure. (b.) After a brief stage of excitement there occur symptoms of general cerebral paralysis under the form of acute meningo-encephalitis. This is the most severe form of all, and usually terminates fatally. In both these forms autopsy discloses fatty degeneration of the heart, kidneys, and liver, while the brain may be normal, or show cedema of the pia mater or chronic lepto-meningitis.

"2. Iodoform intoxication is least often seen in children; the tendency to it increases with age. Healthy youths or adults

seldom suffer, and those who do suffer are usually such as are debilitated, or have the heart's action weakened for the time, as by bleeding or long illness. The susceptibility to poisoning, the liability to the severer forms, and the danger to life, increase with age.

"3. It is not yet possible to state a minimum dangerous dose. We believe that we have evidence that it is only debilitated persons, those whose heart's action is enfeebled, especially the aged, who suffer and die from proportionally small quantities, and, further, that occasional powerful action of comparatively small doses may be explained by the solubility of the poison in the altered secretions (fatty, for instance) in such persons, and by the deficient excretory and expulsive power of the kidneys and bladder. So far as experience goes, any quantity under 10 grms. may be safely used."

Schede classifies the milder cases as follows:—

1. The commonest form is elevation of temperature (aseptic fever) immediately following the application of iodoform and lasting several days. It may occur only after the first application, or with each renewal, and though it may be considerable, is not dangerous. König states that it is not more liable to occur from the use of iodoform than from carbolic acid.

2. With or without fever, the patient is uneasy, irritable, dazed, laconic, suffers from headache and anorexia, and complains of the taste of iodoform in the mouth. The pulse is rapid, small, weak, and compressible. These cases recover rapidly when the drug is removed.

3. Either without fever, or with a very considerable degree of it, the pulse is extremely rapid, it may be 150, 180, or more, even in adults. In spite of this the patient may feel well, or only suffer slightly from the symptom last described, but great danger is imminent if the use of iodoform is continued.

Other symptoms recorded are spasmodic dyspnoea, aphasia, albuminuria, with scanty urine containing a large proportion of salts of iodine. Sudden collapse after an operation has been ascribed by Schede and others to iodoform dressings. Most deny the connection, however, and König puts these deaths into an unexplained list, which he says were in former times ascribed to shock, later to chloroform, more recently to "Listerism," and now must need be set down to iodoform.

Aschenbrandt and Henry, experimenting on animals, have found the application of iodoform to wounds of the respiratory passages cause pneumonia or cedema of the lungs from inhalation of the vapour of the drug.

The time when symptoms are apt to arise varies from

immediately after to six days after the application of the drug. This delay in their appearance suggests to Schede a cumulative action, and he thinks danger is increased in some persons by the presence of an idiosyncrasy. He says:—"There is an idiosyncrasy against iodoform, which makes it for the persons concerned a dangerous poison, the more so that there is no symptom to suggest special care, and that in many cases the poisonous action seems to be cumulative, so that the symptoms of poisoning make their appearance suddenly and with great severity, and then even instant withdrawal of the drug does not avert the fatal issue." The existence of this idiosyncrasy is denied by others, but the theory of the cumulative action meets more general acceptance. (Kocher, Bum, &c.)

The symptoms are by Bum, Mosetig-Moorhof, and others, attributed to the presence of considerable quantities of free iodine in the blood, and are held by them to be the same as those of poisoning by iodine. Kocher, again, holds that its action does not resemble that of iodine, but that of chloroform, causing anæmia of the brain.

The writers of the various articles noted above are not by any means agreed as to the amount of danger incurred by the use of iodoform. Hœftmann states that out of a thousand cases where it was employed, there were only two in which any general symptoms were produced, and that "Schede's symptoms" were not once seen. Mosetig-Moorhof denies altogether that iodoform itself, *properly used*, will cause constitutional disturbance. He has treated cases for four years with it, having treated in that time seven thousand hospital patients, how many of them with iodoform he does not state. He has used it freely, however, under hygienic and other circumstances, in no way differently from other surgeons, and has not once observed such symptoms as Schede, König, and others have described. With König, he would ascribe many of these symptoms to shock or chloroform, to the mental or "psychic" disturbance which may follow any operation (traumatic delirium?), or even to the absorption of carbolic acid used during the operation by many surgeons for washing the wound or purifying the instruments, sponges, assistants' hands, &c. Bum, his assistant, admits that the iodoform may be the proximate cause, but also blames the carbolic acid for their occurrence. He holds that the iodine set free in the blood by the absorbed iodoform is not hurtful if it can at once combine with alkalies in the blood, and be rapidly excreted by the kidneys; but evil will result if the iodine is set free in too great quantity to be at once taken into combination, or if its excre-

tion in combination is hindered. The use of carbolic acid along with iodoform is therefore dangerous, owing to the acid causing, as it so often does, a certain degree of nephritis, and so hindering excretion.

Treatment.—Concerning curative treatment of iodoform poisoning, very little can be said. When symptoms arise, the use of iodoform must at once be discontinued (König), though that does not always avail (Schede). No antidote to the drug has yet been discovered. In one severe case Kocher tried transfusion of blood in vain; in another, the intra-venous injection of a saline solution was found beneficial, he supposes by averting the tendency to death by cerebral anæmia.

With regard to preventive treatment, more can be said. Mosetig-Moorhof attributes the immunity from symptoms in his cases to the following reasons:—

"1. Iodoform was not used in excessive quantity.

"2. Iodoform was never compressed within a wound" (he believes that any firm compression by bandages forces the iodoform with secretions into the cellular tissue, and so causes it to be rapidly absorbed, and in considerable quantity).

"3. Dressings were seldom changed.

"4. When dressings were changed the wound was never washed, nor was fresh iodoform applied, because it was borne in mind that absorption is more rapid in granulating than in fresh wounds.

"5. Whenever iodoform was originally applied, *it only* was used, any other antiseptic being unnecessary, superfluous, or even hurtful. The simultaneous action of carbolic acid, especially, and iodoform is directly hurtful, or even dangerous, not only to the wound, but to the organism."

Bum concludes his article with the following summary:—

"1. Iodoform is poisonous when iodine set free by it in the system does not immediately become combined.

"2. This will happen when—

(a.) The proportion of iodoform absorbed is too great.

(b.) There is quantitative or qualitative alteration in the blood, or more certainly when both are present.

"3. The application of large quantities of iodoform, either at once or by quickly renewed dressings, is to be avoided in anæmic, in very youthful, or in very aged persons.

"4. Iodoform dressings, in order to avoid any cumulative action, should be renewed as seldom as possible.

"5. Absorption being promoted by pressure, dressings should not be tightly bandaged when iodoform is applied to a wound."

—D. M'P.

Methods of Examining the Sputum for Tubercle-Bacilli.—Since Koch's views on tuberculosis have come to be so generally adopted, or at least looked upon favourably, various methods of examining the tissues, and especially the sputum, for bacilli have been described. These consist in the use of aniline staining agents in various ways. The method originally practised by Koch is somewhat cumbrous, and takes too much time to be readily employed for diagnostic purposes. It is now generally given up for Ehrlich's method, which, indeed, Koch himself now employs. The following is an account of Ehrlich's process, taken from the *Brit. Med. Journal*, 17th June, 1882. The time required is only from half-an-hour to an hour. "The sputum is spread in a thin layer on a cover glass and dried. In order to fix the albumen, the cover glasses are kept at a temperature of 100° to 110° C. (212° to 230° F.) for an hour; or, in practice, it is sufficient to pass them three or four times through a gas flame. The staining solution is prepared as follows:—About 5 cubic centimetres of pure aniline are added to 100 cubic centimetres of distilled water, well shaken, and then filtered through a moistened filter. To this mixture a saturated alcoholic solution of fuchsine, methyl-violet, or gentian-violet is added till precipitation commences. The cover glass is allowed to float on this, with the side on which the sputum has been spread directed downwards, for a quarter to half-an-hour. It is then washed for a few seconds in a strong solution of nitric acid (one part of commercial nitric acid to two parts of distilled water), and afterwards in distilled water. In this way, the stain is extracted from everything but the tubercle-bacilli. The ground substance may be stained brown (if the bacilli have been stained violet), or blue (if the bacilli have been stained red), by way of contrast to the bacilli. It is interesting to hear that in Berlin the examination of sputum for bacilli is now generally employed as a means of diagnosing tuberculous affections of the lung from others; for the bacilli are constantly present in the sputa in cases of tubercle."

More recently Dr. P. Baumgarten, professor in Königsberg, has described a simpler and quicker way of demonstrating these bacilli; it is published in the *Centralblatt f. d. Med. Wiss.*, No. 25, 1882. The whole procedure takes up not more than ten minutes, and is thus of great value in everyday practice. For the examination of sections the use of a simple alkaline solution, before recommended by Baumgarten, is sufficient; but for preparations in which the presence of other species of bacteria is to be feared or cannot be prevented, the phthical

sputum, for instance, a combination of the alkaline method with staining gives the best results, and with great rapidity and certainty. A small portion of sputum is dried on a cover glass, as directed above by Ehrlich; this is then wetted with a couple of drops of a weak (a 33 per cent) solution of potash. Such tubercle-bacilli as are present may now be seen with perfect distinctness under a power of 400-500 diameters, the bacilli being more clearly separated from the detritus of tissue or little masses of secreted matter by pressing lightly on the cover glass. To distinguish the tubercle-bacilli from other species of bacilli which may be found in the preparation, staining must be resorted to. The cover glass is raised and laid aside for a few minutes till the moist layer on its under surface has dried; it is then passed two or three times through a gas flame, and moistened with a few drops of a dilute (but not too clear) watery solution of aniline violet or of any of the other nucleus-staining aniline colours. Under the microscope the bacteria of putrefaction appear *intensely blue* in colour (or brown, according to the stain used), while the tubercle-bacilli remain *absolutely colourless*, and are thus seen as distinctly and clearly as in preparations made by the simple alkaline method.

Dr. Heneage Gibbes, Curator of the Museum, King's College, London, publishes in the *Lancet*, 5th August, 1882, a method which he says will always bring out the bacillus with ease and certainty, and which in his hands has never failed, though very often Koch's, and sometimes Ehrlich's method has proved unsatisfactory. Ehrlich's method he states to be better than Koch's; and though even it is not perfectly reliable, it gives the clue to what is wanting in Koch's process: the aniline colour used will not stain the tubercle bacillus without the addition of another base in the shape of pure aniline, and the manner in which Ehrlich does this is open to objection. Gibbes describes his process in the following words:—

“The colours used are magenta crystals and chrysoidin; the latter is a brown, which does not stain the ground substance so intensely as vesuvin. They can be procured from the Badesche Anilin Fabrik, 22 Bush Lane, Cannon Street, E.C. The following are the formulæ I have used:—Two grammes of magenta crystals, three grammes of pure anilin, twenty cubic centimetres of alcohol, specific gravity .830, twenty cubic centimetres of distilled water. Dissolve the anilin in the spirit, and then rub up the colour with it in a glass mortar, adding the spirit gradually until it is all dissolved; then add the water slowly, while stirring, and keep in a stoppered

bottle. Make a saturated solution of chrysoidin in distilled water, and add a crystal of thymol to make it keep; a dilute solution of nitric acid (Coml) is made—one part of acid to two of distilled water. For sputum, the following process is the most simple:—Spread a thin layer on a cover glass, and let it dry; when quite dry, pass it two or three times through the flame of a small Bunsen burner, and let it cool. Filter two or three drops of magenta solution in a watch glass, place the cover glass with the sputum downwards on the stain, taking care there are no air bubbles under it. Let it remain for fifteen or twenty minutes, then wash in the dilute acid until all colour has disappeared; remove the acid with distilled water, when a faint colour will return, then place the cover glass in the same manner as before on a few drops of chrysoidin solution filtered into the bottom of a watch glass, and let it remain a few minutes until it has taken on the brown stain; wash off the superfluous colour in distilled water, and place the cover glass in absolute alcohol for a few minutes; remove and dry perfectly in the air, place a drop of Canada balsam solution on the cover glass, and mount. It is better to use small glass funnels for filtering the stains, as they protect the fingers. Sections of hardened tissue are treated in the same manner with the necessary modifications. With regard to the powers required to examine these bacilli after they have been mounted by this process, an ordinary $\frac{1}{4}$ -inch with daylight will show them perfectly, and a $\frac{1}{8}$ dry glass will show that they are rows of spherical bodies with the same illumination.”

“In every case in which the sputum has shown the tubercle bacillus, other slides have been prepared and stained, to show the putrefactive bacilli, which exist in large numbers, and in several varieties, in the same sputum; but none of these were stained by the magenta process. I have also made a series of experiments to see whether the bacilli increased in the sputum by keeping, and after taking the mean of a number of given areas from the first to the tenth day of the same sputum, I find no increase of the tubercle bacilli, but in staining duplicates, to bring out the putrefactive bacilli, I find them enormously increased, and still they are not stained by the magenta process.”

The Treatment of Hæmorrhoids by Injections of Carbolic Acid—Dr. Charles B. Kelsey, Surgeon to St. Paul's Infirmary for Diseases of the Rectum, New York, recently opened a discussion on the treatment of hæmorrhoids, at a meeting of the New York Clinical Society, by reading a

paper on the treatment by injections of carbolic acid. The paper, which appears in the August number of the *New York Medical Journal and Obstetrical Review*, opens with condensed histories of a number of cases, after which he remarks that the method is constantly growing in favour with him, and the more he practises it the more confidence he gains in it. With solutions of proper strength the danger of causing sloughing of the tumours is very slight. There are no objections to this method which do not apply equally to others. He has once seen considerable ulceration result from it in the hands of another; but he has seen an equal amount follow the application of the ligature; and he does not consider this as a danger greatly to be feared when injections of proper strength are introduced in the proper way. It is applicable to all cases; is especially adapted to bad cases; and may be used where a cutting operation is inadmissible. It acts by setting up an amount of irritation within the tumour, which results in an increase of connective tissue, a closure of the vascular loops, and a consequent hardening and decrease in the size of the hæmorrhoid. Except when sloughing occurs, the tumours are not removed, but are rendered inert, so that they no longer either bleed or come down outside of the body. In cases in which the sphincter has become weakened by distension, the injections will also have a decided effect in contracting the anal orifice, as injections of ergot or strychnine do in cases of prolapsus. He has used this method of treatment now many times, and has never, except in one case, had reason to regret using it or to be dissatisfied with its results, so far as he has been able to follow them. Although slow to advocate any one treatment of this affection to the exclusion of all others, he now generally adopts this from the outset in each case, reserving Allingham's operation for any in which the injections may fail. As yet he has met with no such case. Its advantages over all other methods, provided its results prove equally satisfactory, are manifest. The patient is not terrified at the outset by the prospect of a surgical operation, is not confined to his bed, and is not subjected to any suffering. The cure goes on painlessly, and almost without his consciousness. Dr. Kelsey uses a solution consisting of one part of pure carbolic acid to three of glycerine and three of water; of this five minims are injected into each tumour. In one case he describes, in the course of three months four injections were made into four different hæmorrhoids. Only one of them was followed

by any pain or soreness." "This man was a fireman, and at no time during the treatment was he unable to attend to the active duties of the service." [For further information regarding this method of treatment see this *Journal*, vol. xvi, p. 462; vol. xv, p. 333; vol. xii, p. 234; vol. xi, p. 327. This method of treatment seems safe, and is generally painless. The tumours shrink as a rule, and do not slough. When sloughing does occur, however, which is rarely, there is much pain, as in one of the cases recorded above by Dr. Kelsey.]

Carbonate of Ammonia as a Stimulant.—In an experimental essay on this subject Dr. E. P. Brewer, in the July Number of the *American Journal of the Medical Sciences*, takes the position that the stimulating properties possessed by this drug are owing to evolution of free ammonia while in process of combining with the hydrochloric acid of the gastric juice.

In support of this view he states that observations drawn from forty-nine experiments prove—

1st. Carbonate of ammonia, administered by the rectum, cellular tissue, and intestine, is almost completely robbed of its stimulating properties.

2nd. By the stomach it acts with great power when we permit the full play of the acid gastric juice; the converse being apparent when we neutralise the acid of the gastric juice.

3rd. That the ultimate result of the chemical union is a product totally different in power and latitude of action from carbonate of ammonia.

Analyses of blood made soon after the exhibition of a dose of carbonate of ammonia show an excess of free ammonia.

Loss of Voice in Singers and Orators.—Dr. Corson advises in aphonia of singers to place in the mouth a small piece of borax and allow it slowly to melt there. An abundant secretion of saliva takes place into the mouth, especially at its posterior part. In other cases he employs a glass of sugared water containing 15 grammes of nitrate of potash. He also advises in bad cases the following gargle:—

Barley water,	.	..	.	200 grammes.
Alum,	.	.	.	5 to 10 „
Rose honey,	.	.	.	20 „

—(*Revue Méd.*, 12th April, 1882.) *Lyon Médical.* June, 1882.

—J. A. A.

Therapeutic Uses of Herba Pulsatilla. (*Anemone pratensis*, and *A. pulsatilla*.)—Dr. Lewis Shapter endeavours to show, in a paper published in *The Practitioner* for July, 1882, that in medicinal doses this drug “exerts its primary and essential influence as a sedative upon the sympathetic or ganglionic nervous system, subduing those nervous conditions or neuroses which may be regarded as reflex in origin, and controlling those vascular and tissue disorders which, pathologically considered, are sympathetic neuroses.” The tincture of the whole herb (and not of the root, which is probably the homœopathic preparation), is the form in which he administers the drug; its strength is two and a half ounces of the herb to one pound of spirit (or one in eight.) The time for administration is an hour or so before food. Dose, ten to thirty minims, in distilled water; the action of the drug seems to be aided by the addition of twenty-minim doses of tinct. chlorof. co.

Some cases are here given, illustrative of the class of disorders in which Dr. Shapter has found pulsatilla useful. The first of these is one of eclampsia, accidental and transitory epilepsy, following scarlet fever and nephritis. The kidney affection and uræmic convulsions followed immediately on the scarlet fever; the fits began nine months later, and latterly occurred four and five times a day. Tincture of pulsatilla was given in doses increasing from 5 to 20 minims, every three hours, with the result that in about three weeks the attacks ceased, and did not return while the patient was under observation.

Another case of eclampsia (epileptic attacks recent in origin and acute in character), due to the presence of decayed teeth, is mentioned; this also rapidly recovered under the use of pulsatilla, after the decayed teeth had been removed. Another patient suffering from epileptiform convulsions, due most probably to the same cause, has been free from fits for two months since she began to take pulsatilla, though the cause in the form of the decayed teeth still remains; bromide of potassium was previously tried and had failed.

The fourth case is one of uterine eclampsia, fits connected with uterine displacement, and of many years' duration. The use of a suitable pessary, and the administration of pulsatilla, gave complete relief: there had been no fits for some months at the time the report was written.

Two cases of neurotic disease, seated presumably in the ganglia of the sympathetic, are then recorded. The first of these is headed “Cardialgia, functional palpitation, throbbing of the vessels, heat, and flushings (erythema evanidum.)” The

lad suffered mainly from perceptible throbbing of the vessels, turbulent palpitation of the heart, giddiness and slight attacks of fainting; he was extremely "nervous," and could hardly collect himself to answer questions when spoken to. He was treated for three months, the whole round of tonics, anti-spasmodics, sedatives, &c., being tried without success. Improvement at once set in when pulsatilla was begun, and at the end of about two months the patient was practically well.

A case of "vascular turgescence of the thyroid, with amenorrhœa and anæmia, underwent similar improvement. The swelling of the glands was increased at the periods when the menstrual flow should have appeared. Six weeks after commencing pulsatilla the menstrual flow had returned, there had been no accompanying enlargement of the neck, and the health in all respects was better.

Finally, in a case of facial neuralgia which had resisted croton chloral hydrate, bromide of potassium, &c., pulsatilla proved successful.

According to Dr. Shapter, while pulsatilla is an adjuvant to the use of the bromide of potassium in cases of ordinary epilepsy, it is an actual preventive of eclampsia. "Neuralgic dysmenorrhœa is markedly benefited by the combined use of pulsatilla and bromide. Palpitation of the heart also will be relieved if it is sympathetic or ganglionic in origin." "The true position, then, of pulsatilla as a remedial agent appears to be that of acting upon and controlling irritability and hyper-activity of the ganglionic nervous system; but it has no place, except indirectly, as a vascular sedative to be classed with aconite and hellebore."

The Geographical and Climatic Relations of Pneumonia.—From a valuable paper on this subject, by Dr. E. Sanders, published in *The American Journal of the Medical Sciences* for July, 1882, we extract the following conclusions: 1st. The relations of pneumonia to altitude are definite and marked; with increase in elevation above the level of the sea, there is a steady diminution in the death-rate of pneumonia. 2nd. The mean annual rainfall of a place bears no positive relation to pneumonia. 3rd. The higher the death-rate of a place from all causes, the greater the mortality from pneumonia. 4th. The larger the actual population of a locality, the greater its relative death-rate from pneumonia. 5th. There is a direct, positive, and unequivocal relation between the mean annual temperature of a place and its death-rate from pneumonia; the rule being that a high mortality from the disease

coincides with a high mean annual temperature. 6th. Proximity to large bodies of water, such as lakes, inland seas, or the ocean, exerts no appreciable influence on the pneumonia rate. 7th. For North America, pneumonia increases in frequency as we pass from east to west; for Europe as we advance from west to east, the rate of increase being very nearly twice as great in the case of the latter as in that of the former. 8th. Pneumonia, all other things being equal, increases in frequency the further we advance from the polar regions towards the tropics; this, however, only up to a certain parallel, beyond which it seems to become less and less commonly met with, until at or near the equator, where it apparently disappears.

The Birth of an Elephant.—Dr. Gustavus E. Sussdorff, of New York, contributes to the July number of the *New York Medical Journal and Obstetrical Review* an account of the process of parturition as it took place in the case of the elephant "Queen" last February. The period of gestation was 597 days. There was no noticeable enlargement of the abdomen until it suddenly became quite prominent the day before labour began. This enlargement did not subside with the expulsion of the foetus and after-birth, but continued four days longer. During the later months the mammæ became swollen, and soon filled with serous milk. These were the only signs of pregnancy to be seen. The labour began at 3 P.M., 2nd February. At this time the mammæ were greatly distended with milk, which came away continuously in drops. The vagina now began to drop down and swell. In a short time thick mucus began to come from the vagina in long ropy strings, and almost poured out just before delivery. From three until eight o'clock "Queen" was evidently uneasy, as she constantly moved her body from side to side, but did not seem to suffer *pain*, and quietly munched some hay up to the very moment of delivery. At 8:10 the young elephant was born, the head presenting, completely enveloped by the unbroken membranes. The head and part of the body rested between the hind legs of the mother, and touched the ground. Without waiting a moment, the mother ruptured the membranes with her two hind feet, when the young one rolled out, on its back. The membranes were no sooner liberated than they quickly returned into the vagina. The umbilical cord had not been seen at all, having probably been torn away during the descent of the foetus. The mother now quickly turned to the young, and, on seeing it, began to roar and bellow furiously, which she continued for ten minutes. As soon as she saw the

baby she also at once placed one fore foot on it and rolled it several times, as one does a lemon under the palm of the hand, the bellowing and roaring continuing. In a moment or two more she placed her abdomen upon a short post in the ground, to which she was chained, standing almost upon her head, and grasping the post with her trunk, thus forcing the abdomen with great power against the post. "Queen" remained in that position for about ten minutes; then became quiet, and, while playing with her young, took some food. Nothing indicative of after pains could be recognised after this, and in one hour and thirty minutes the placenta was expelled. With it there came about two quarts of clotted blood. There was no hæmorrhage either from the uterus or from the umbilicus of the calf. The duration of labour was five hours and ten minutes. The calf, a female, weighed 245 pounds, and stood just three feet high. It began nursing one hour and forty minutes after birth. It had two middle upper teeth. The umbilical cord entered the abdomen about three inches anterior to the vagina, and had been detached very close to the abdomen, as none was visible at that point, the canal being open and large enough to admit a good sized finger for half-an-inch. Dr. Sussdorff remarks that there are several very interesting and instructive points in this history. First, the period of gestation is evidently not affected by change of climate and captivity, lasting about nineteen and a half months. The time of labour is short, and evidently there is not much pain. The sagacity of the animal is remarkable, as shown by the manner in which she ruptured the membranes, the means she took to excite respiration by rolling the young, and, finally, her effort to express the placenta from the uterus. He then describes the placenta and the foetal membranes, comparing them with those described by Owen, and adds a summary of various observations that have been made of the milk of the elephant as compared with that of other animals, giving drawings which show its microscopical characters in comparison with those of cow's milk.

Treatment of Epilepsy.—Dr. David advises the treatment of epilepsy by the simultaneous employment of atropine and the bromides of potass and ammonium. For a period of six months, he orders twenty grains of the bromide of potass to be taken with ten of bromide of ammonium—thrice daily. At the same time the patient is instructed to take a granule of one milligramme of sulphate of atropine morning and evening. At the end of the six months the following pills are prescribed:

Valerianate of zinc,.....4 centigr.
 Extract of belladonna,.....6 milligr.
 Arsenious acid,.....2 milligr.
 Extract of gentian,.....q. s.

Two of these pills are taken daily during twelve months. Should the faintest symptom of the threatened occurrence of the epilepsy appear the treatment must be kept up for yet another twelve months.—*Lyon Médical*. 19th March, 1882.—J. A. A.

A Painful Affection of the Wrist.—In the July number of the *New York Medical Journal and Obstetrical Review*, Dr. Edward H. Bradford, surgeon to out-patients, Boston City Hospital, relates three cases of a painful affection of the wrist, the features of which were: pain referred to or most severe at the middle of the carpus; slight swelling; an absence of constitutional disturbance, and with no interference, or but partial interference, with motion of the articulation between the carpus and the radius and ulna. The symptoms were relieved by fixation, and recovery took place finally after a period of rest. Judging from analogy, Dr. Bradford remarks, it seems probable that the cases here reported were similar to a degree to a synovitis of the medio-tarsal joint, described by Gosselin under the term tarsalgia adolescentium; differing somewhat in their course from the fact that the wrist, a part easily immobilised from the first, and not the tarsus, was affected. Leaving out of account the smaller synovial membranes of the carpus—i. e., these between the pisiform bone and the cuneiform, the trapezium and the metacarpal bone of the thumb, the ulna and the fibro-cartilage at the joint—there are two large synovial sacs—viz., that between the main carpal bones and the radius and cartilage covering the ulna, and that between the main bones of the carpus, of which the os magnum is the larger and central bone. From the symptoms in the cases reported, the author thinks that the inflammation was one affecting this latter synovial sac, and limited to this alone, and that they may therefore be termed cases of synovitis of the carpus.

The Comparative Action of Sulphate of Daturia and of Sulphate of Hyoscyamia upon the Iris and Oiliary Muscle.—In the *American Journal of the Medical Sciences* for July, 1882, Dr. Chas. A. Oliver publishes a series of careful comparative experiments with the above mydriatics, of which the following are the conclusions:—1. A single instillation of

either $\frac{1}{10}$ or $\frac{1}{20}$ of a grain each of both the sulphate of daturia and the sulphate of hyoscyamia is sufficient to paralyse accommodation in a normal emmetropic or a healthy ametropic eye. 2. No dependence can be placed upon the action of a single instillation of either of these drugs upon the ciliary muscle of an unhealthy ametropic eye. 3. A single instillation of either $\frac{1}{10}$ or $\frac{1}{20}$ is of no value in the estimation of the degree of refraction in marked cases of asthenopic ametropia; but may be of great service in either verifying previous results or primarily determining errors in ametropic eyes. 4. Maximum dilatation of the pupil is produced by a single instillation of either of these. 5. The total paralysis of the ciliary muscle, occasioned by a single instillation of sulphate of daturia is attained later and lost sooner than the total paralysis occasioned by a single instillation of equivalent amounts of sulphate of hyoscyamia. 6. The mydriasis of a single instillation of sulphate of daturia is not so quickly attained, and is of shorter duration than that of a single instillation of equivalent amounts of sulphate of hyoscyamia. 7. The full action of a single instillation of sulphate of daturia upon the iris and ciliary muscle remains *intact* for a shorter time than that of a single instillation of equivalent amounts of sulphate of hyoscyamia; the time of the latter being almost double that of the former. 8. With the use of the amounts given of both the drugs, primary calculation of refractive error may be accurately obtained without second instillation, after the lapse of twenty-four hours. 9. The long continued dilatation of the pupil and the slow return of ciliary power occasioned by the amounts given of both the drugs, render them absolutely useless where we desire accurate ophthalmoscopic examination in cases dependent upon their use. 10. The astringent and irritant action of the two drugs upon the conjunctiva may be avoided by the use of a neutral salt. 11. The comparatively rare and slight transient constitutional effect caused by a single instillation of the amounts given of sulphate of daturia may be considered as perfectly harmless, and of no consequence. 12. The grave constitutional disturbance sometimes seen during the use of a single instillation of the amounts given of sulphate of hyoscyamia should render us cautious in its employment.

Acute Glaucoma induced by Duboisia.—That atropia instilled into an eye may excite an attack of acute inflammatory glaucoma is generally accepted by ophthalmologists as an established clinical fact. An inference which may properly be induced from this is that all drugs belonging to the

mydriatics may likewise cause this morbid state to appear. A practical illustration of this as regards duboisia is presented in the history of a case, the first, so far as we are aware, on record, reported by Dr. Albert G. Heyl in the *American Journal of the Medical Sciences* for April, 1882, in which, following the instillation of duboisia, acute inflammatory glaucoma was speedily developed in an eye in which a simple glaucoma already existed.

Inter - Crico-Thyroid Laryngotomy.—Dr. Launy, of Paris, deals exhaustively with this operation in a pamphlet issued by him within the last few months. The merits of the operation have been repeatedly discussed by various surgeons, but the objections to it have never been sustained by exact anatomical data. M. Krishaber, on the contrary, has proved that in the adult the crico-thyroid membrane was sufficient to admit the introduction of a suitable canula. Dr. de Launy has undertaken measurements on dead subjects, and he has been able to obtain a maximum space of from 12 to 14 millimetres in the adult—2 or 3 millimetres may be added by moving the cricoid cartilage. In the child, laryngotomy is scarcely possible except when over 12 or 13 years of age, when the crico-thyroid space measures at least 7 millimetres.

The operation is easy and clearly indicated. The author strongly advises the employment of the thermo-cautery of Paquelin. By operating slowly and at a dull red heat no bleeding of any consequence occurs. The vertical incision is sufficient and preferable; it permits the introduction of the canula without requiring previous dilatation.

A complication accompanying inter-crico-thyroid laryngotomy is a dysphagia which occurs on the day of or the day after the operation, and lasts from eight to nine days. It is probably due to the pressure exercised upon the anterior wall of the œsophagus by the convexity of the canula.

He discusses the indications for and against the operation. It should be performed when the patient's life is in danger. One ought immediately to operate in pseudo-membranous laryngitis, œdema, burns of the larynx, or where foreign bodies are present. Sometimes laryngotomy is alone possible; for example, in swelling of the vessels of the neck, in tumours which displace the trachea, and above all, in affections of the thyroid body. In this last case, it is advisable occasionally to overcome the obstacle by replacing the internal canula by an œsophageal catheter.

This operation is, nevertheless, contra-indicated when the

lesion renders the crico-thyroid space insufficient to admit an ordinary canula. It is formally forbidden under the age of 12 years, and in the aged, whose crico-thyroid articulations are quite ankylosed.—*Lyon Médical*. 12th June, 1882.—J. A. A.

Mercury and other Remedies in the Treatment of Syphilis.—In the *New York Medical Journal and Obstetrical Review* for March, 1882, Dr. George Henry Fox, Clinical Professor of Diseases of the Skin in the College of Physicians and Surgeons, New York, maintains that mercury, while undoubtedly our most valuable remedy in the medicinal treatment of syphilis, is yet an overrated drug, and is not essential to the cure of the disease. It is best administered internally rather than by inunction, by vapour baths, or by hypodermic injection. The amount usually given is unnecessarily large, and its local irritant effects should be avoided. The duration of its use should vary according to the severity of the case: no absolute rule can be laid down. Iodide of potassium, the author thinks, should not be reserved solely for the late period of the disease, for there is no stage in which either iodine or mercury is incapable of doing good. Instead of the so-called "mixed treatment," he prefers to give the two agents separately. Iodide of potassium ought not to be administered continuously for any great length of time. It does its work quickly or not at all, and when unnecessarily continued is sure to do harm. Very large doses should not be used without the plainest indications. They are not without their value in certain cases, but iodism has doubtless often been mistaken for the manifestations of syphilis. Iron deserves to be ranked with mercury and iodide of potassium, from its effect on the anæmia that invariably accompanies the early stage of syphilis. Cod-liver oil is another remedy of great value, especially where there is a strumous taint.

Quillaiine.—Mr. S. A. McDonnell writes (*New Remedies*, April, 1882) very enthusiastically of quillaiine, a new emulsifying agent which he extracts from the bark of the *quillaya saponaria* by powdering the bark, boiling with water, and straining or percolating; the product may then be evaporated to dryness, or may, while still syrupy, be dried on plates of glass, and obtained in the form of fine scales. This dry extract, which the writer names quillaiine, has a somewhat acrid taste, but this may be left out of consideration on account of the smallness of the quantity needed to make an emulsion. Its emulsifying powers are extraordinary. If a grain be dis-

solved in half-an-ounce of water, and to this an ounce of a fixed oil (as cod liver oil) be added, a few shakes give a perfectly homogeneous mixture. One grain of quillaiine should be used for each ounce of oil. Castor oil made up in this way makes a thin white homogeneous fluid not unlike milk. The following may be mentioned as useful instances of its application:—

R.	Quillaiine,	gr. iv.
	Aquæ,	ʒi.
	Ol. Morrhuæ.,	ʒiv.
	Syr. Hypophosph.,	ʒiii.
	Ol. Aurant.,	gtt. v. M.
R.	Quillaiine,	gr. iii.
	Aquæ Cinnamomi,	ʒiiss.
	Ol. Ricini,	ʒiii.
	Glycerini (vel Syrupi),	ʒss. M.
R.	Quillaiine,	gr. i.
	Aq. Gaultheriæ,	ʒvii.
	Ext. Filicis Liq.,	ʒi. M.

[Wood and Bache state that the *quillaya saponaria* is an evergreen tree which grows in Chili. The liber, or inner bark, when bruised and macerated in water, imparts to that liquid the property of frothing like soap when agitated. This is owing to the presence of saponin in the bark. Neither tannic acid nor any bitter principle is found in the bark. It is used in America for removing grease spots from cloth, for washing silken and woollen stuffs, and as a hair wash. The powdered bark has a powerfully irritating effect on the nasal mucous membrane, causing sneezing and profuse nasal discharge; the nostrils must therefore be stuffed with cotton wool while the drug is being bruised in the mortar. The powder is sometimes snuffed up the nostrils as a remedy for cold in the head].

On Ulcers and Eczema of the Lower Limbs. By A. W. ALLAN JAMIESON, M.D., F.R.C.P.S.—The following is the treatment which Dr. Jamieson has found useful in ulcers of the lower limbs. All inflammatory irritation must be allayed by rest and starch poultices. These poultices should be made with Glenfield starch prepared as for starching linen; allowed to cool, it sets into a transparent jelly, which is spread on strips of cotton and applied to the ulcer. This is cooling and retains its moisture a considerable time, and should be changed before it hardens.

After the irritation is gone, either Baynton's method with adhesive plaster is recommended, repeated daily until all discharge is gone, or Martin's pure rubber elastic bandages are applied during the day, and boracic lint wet and covered with gutta-percha tissue and an ordinary roller bandage during the night.

With reference to eczema, Dr. Jamieson agrees with Bulkley that many eczematous conditions are kept up by a want of subcutaneous fat, and are indicated in the young by a preliminary tension of the skin with dryness, and this is to be counteracted by augmenting the fatty elements of the diet with pancreatine and lactopeptine as aids to digestion, and the application of emollients such as glycerine and vaseline.

According to the severity of the eczema must the treatment vary. In mild cases Dr. J. has found a lotion of liq. carbonis detergens with glycerine and water useful, along with Hunyadi Janos water internally. Where there is much œdema with tenderness of the skin, Kaposi's modification of Hebra's diachylon ointment is a useful application, with careful bandaging, a simple roller being applied beneath Martin's bandage. When the skin is healed, dust with French chalk and harden the skin with liq. carbonis detergens in a lotion of ʒii to the ʒviii of water. The association of eczema with asthma is illustrated in one of the cases mentioned, as also with other mucous affections, such as menorrhagia.

Patchy eczemas are found to heal best when treated with black wash applied freely, which having dried, an ointment made by mixing ʒi of oxide of zinc with ʒi of cold cream is applied—cod-liver oil and iron are given internally. In all cases it is important to render the part thoroughly clean and aseptic before using any local application—*Edinburgh Med. Journal.* June, 1882.—J. C. R.

A New Method of Reduction in Dislocation of the Shoulder.—Dr. Charny describes a method which he has frequently practised, and with success, in downward dislocations of the shoulder. He flexes the thumb of his right hand at a right angle, and grasps it firmly with the other four fingers, forming thus a cavity or depression between the thumb and forefinger; this hand he thrusts under the arm in such a way that the dislocated head of the humerus rests in the depression just described, while he places the left hand on the acromion. He then causes extension and counter-extension to be made, and whilst this is being done, he pushes the

head of the bone upwards, and finds that a very slight degree of force is sufficient to effect the reduction of the dislocation. He mentions as one of the advantages of this method that by it the head of the bone is less apt to slip in front of, or behind, the glenoid cavity.—*Bull. Gén. de Thérap.* 15th April, 1882.

The Causes, Results, and Treatment of Lacerations of the Cervix Uteri. By ANGUS MACDONALD, M.D., Physician for, and Clinical Lecturer on, Diseases of Women, Royal Infirmary, Edinburgh.—In a paper on the above subject, Dr. Macdonald gives details of ten cases in which he operated by the method recommended by Emmet, and he refers to four others treated in the same manner by Dr. Chapman during his absence.

The cases were all successful, and the relief to the distressing symptoms produced by lacerations of the cervix was very marked.

In order to secure a good result, Dr. M. lays down the following rules:—

1. *Preparatory Treatment.*—Rest in bed; regular daily application of the hot water vaginal douche to reduce the congestion of the parts.

2. *Exposure and Fixation of the Cervix.*—Unless when fixed by inflammatory adhesions, the cervix should be drawn down to the vulva by hooks, and retained there by a short thread passed through both anterior and posterior lips, and tied long to form a single loop. By this loop either the anterior or posterior lip may be separated by simply drawing out the part of the thread passing between the lips.

3. *Paring the Edges.*—The patient being placed in lithotomy position, the edges of the lacerated cervix are carefully pared either with a knife or vaginal scissors. Dr. M. thinks the latter best, as they seem to cause less hæmorrhage.

4. *Arrest of Hæmorrhage.*—Sometimes it is possible to apply Breisky's tourniquet if the cervix is much hypertrophied, and this secures a bloodless operation, but as a rule, the bleeding can be controlled by ice or jets of hot water.

5. *Passing the Sutures.*—These are passed by means of short, stout needles, $1\frac{1}{2}$ inches in length, held in the grasp of a needle holder.

6. *Securing the Threads.*—The two ends of each thread are brought through a shield and twisted. They are then carefully bent to lie parallel with the cervix, and thus injury to the vagina is prevented.

7. *After Treatment.*—Patient is kept in bed, and scrupu-

lously at rest for ten days. The vagina is washed out with a disinfectant lotion once or twice daily, according to circumstances. The stitches are carefully removed in ten days, and the patient kept quiet for other ten, when the parts are consolidated sufficiently to allow her to move about.—*Edin. Med. Journal.* July, 1882.—J. C. R.

The Functions of the Soft Palate and Uvula.—In the *American Journal of the Medical Sciences* for April, 1882, Dr. Whitfield Ward publishes a paper in which he shows that the velum and uvula play an important part in the production of nearly every tone that issues from the vocal organs, and, without their proper action, singing is out of the question. During the production of tones that are emitted through the nose alone, the free border of the velum rests upon the dorsum of the tongue, thus shutting off all communication between the fauces and anterior buccal cavity, and increasing the length of the human musical pipe. If, during the intonation of certain notes, the pendulous velum should be pressed up against the pharynx, exactly the same effect would be produced as though a piece of the upper extremity of an organ pipe were to be cut off, namely, the placing of the note higher in the scale.

The physiology of the uvula is none the less remarkable, since very many of the actions of the velum are entirely under the control of this important little body, which acts as its supporter.

Leucocythaemia.—In the *Canadian Journal of Medical Science* for Nov., 1881, Dr. J. Graham comes to the following conclusions as to the nature of this disease:—(1.) That the essential features of leucocythæmia are the lymphoid growths, and the leucocytes found in the blood derived from them. (2.) That the existence of similar growths is the essential element of Hodgkin's disease; but in it the cells, for some reason which he cannot explain, do not find their way into the circulation. (3.) That in both diseases the presence of these growths or deposits interferes with the formation of the red corpuscles, producing anæmia. (4.) That these growths bear a strong resemblance to those of a malignant character, especially sarcomata. (5.) That progressive pernicious anæmia may arise as a consequence of leucocythæmia or Hodgkin's disease in the same way as it sometimes results from pregnancy, or any other condition which interferes with the proper elaboration of the blood.—*The Med. News.* 7th Jan'y., 1882.

A Case of Mistaken Diagnosis.—Dr. Reimann, of Kiew, gives the details of a case of mistaken diagnosis which recently occurred in the hospital there. A woman of 30 years of age was sent in to be operated on for an ovarian tumour. After examination by two of the medical officers and their assistants, the operation was proceeded with, and the fact that the woman was in the eighth month of pregnancy not discovered till the uterus had been opened. It was thought best to remove the child, which was alive, and close the uterine wound with sutures. The patient died of peritonitis on the third day, and no tumour or other pathological condition was found. The action at law which was raised against the two surgeons is not yet concluded.—*Centralbl. für Gynæk.* April, 1882.—W. L. R.

On the Physics of Anæsthetics.—In a suggestive paper in the *American Journal of the Medical Sciences* for April, 1882, Dr. Wm. H. Greene points out the possibility of disastrous results being due to the physical nature of an anæsthetic to the exclusion of all other factors. All gases or vapours which are capable of replacing a portion of the air entering the lungs, and which exert no poisonous action on the tissues, may be classed as anæsthetics, probably from their excluding oxygen from the lungs, and Dr. Greene shows it is not at all improbable that at least a part of the effect of all anæsthetics is due to the same cause.

The elimination of an anæsthetic is a matter of as vital importance as is its introduction, and this elimination, for the most part effected by the lungs, must be governed by the laws of the diffusion of gases. If the vapour diffuse but slowly into the air, it is obstinately retained by the air lobules, and its presence must, to a certain extent, interfere with the elimination of carbon dioxide and the necessary absorption of oxygen. The rate of diffusion of gases is inversely as the square roots of their densities. Dr. Greene makes an interesting comparison between the vapour densities of a few simple compounds, and, at the same time, their reputed values as safe anæsthetics, in which the attention must necessarily be drawn to the low densities of the substances which are universally recognised as those whose employment is most devoid of danger.

The Pathology of Addison's Disease.—Professor Semmola, of Naples, endeavours in the *Giorn. di Clin. et Terap.*, 1882, to clear up the obscurity which hangs over the pathology of Addison's disease. He considers that the

disease is primarily a nervous one, and that the changes that occur in the suprarenal capsules are entirely secondary in character, and are induced by the affection of the branches of nerves which control these structures. From the cases he has observed and from the microscopical examinations he has made, he concludes "that Addison's disease is a serious disorder of the renal nutrition, determined by successive alterations of the functions of the sympathetic, and of various nervous centres of organic life—*i. e.*, cardiac, solar plexuses," &c., &c.

Regarding treatment, he advises abdominal galvanism and horse exercise daily.—*Lyon Médical*. April 1882.—J. A. A.

Position of the Stomach and the Relations of its Form and Function.—Professor Lesshaft, of St. Petersburg, has come to the conclusion that the stomach has a vertical position in the abdominal cavity. The fundus touches the diaphragm; the pyloric orifice looks towards the right; the lesser curvature also to the right, and at its upper part somewhat downwards; the greater curvature towards the left. It lies in the left hypochondrium and epigastrium, and the pyloric orifice lies in a line prolonged from the right border of the sternum. When the stomach is distended it cannot alter the position of any of its parts in consequence of its connection with neighbouring parts, but must dilate uniformly according to the extent to which it is filled. The muscular coat of the stomach consists of longitudinal, circular, and oblique fibres. The longitudinal fibres go from the fundus to the pylorus, the circular layer becomes thicker towards the pyloric orifice, and is most marked at the pyloric sphincter. The food introduced into the stomach is thus moved along the gastric walls towards the pylorus, so that it can be readily mixed with the gastric juice. It then returns along the middle line of the stomach back towards the fundus. The peripheral movement of the gastric contents from the fundus to the pylorus and its central return are only rendered possible by the peculiar form of the stomach. The absence of the fundus in newly-born children, and its appearance later can only be explained by the central ascending current of the gastric contents. The form of the stomach and the distribution of its muscles render the retention of food in the stomach easily comprehensible, and also the slight and gradual passage into the small intestine during the first part of the digestive process. When gas accumulates in the transverse colon it may rise upwards in a loop to the left of the stomach as far as the fourth intercostal space, or even

to the fourth rib. When gas accumulates in the loops of the small intestine they rise upwards behind the transverse colon, and in such a case the lower part of the stomach may turn somewhat forwards and the organ may assume a more oblique position from above and behind downwards and forwards. Even when the stomach is large, and large quantities of food are taken at a time, it always retains the vertical position, and only the pyloric part turns upwards and to the right, where it becomes continuous with the duodenum. The spleen normally lies at the posterior and upper part of the greater curvature towards the middle of the fundus. It corresponds to the ninth intercostal space, or the tenth rib on the left side, beginning at the place where the axillary line intersects this intercostal space, and reaches with its upper end almost to the vertebral column.—(*Virchow's Archiv*, vol. lxxxvii, p. 69.)—*The Practitioner*, July, 1882.

Minimum Doses of Iodide of Potassium in Frontal Headaches.—Dr. Haley draws attention to the powerful anticephalgic properties of this drug when used in small doses. As a rule, a heavy dull headache situated over the brows and accompanied by languor, chilliness, and a feeling of general discomfort, with distaste for food which sometimes approaches to nausea, can be completely removed in about ten minutes by a two-grain dose of the iodide of potassium dissolved in half a wineglassful of water, this being quietly sipped so that the whole quantity is consumed in about ten minutes. This class of headaches seems to have no particular or definite cause, belonging apparently to the class of sympathetic headaches. In many cases the effect of these small doses is simply wonderful, and their great advantage is the rapidity with which they act.—(*The Australian Medical Journal*, 15th August, 1881.)—*The Practitioner*, April, 1882.

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ORIGINAL ARTICLES.

NOTE ON PAGET'S DISEASE OF THE NIPPLE.

By T. M'CALL ANDERSON, M.D.,
Professor of Clinical Medicine in the University of Glasgow.

It is of the utmost importance to come to a definite conclusion with regard to "Paget's disease of the nipple"—whether, as Sir James himself believed, the disease is at first of the nature of eczema, and ultimately terminates in cancer of the breast, or whether it is of a malignant nature from the outset—as the treatment, of course, must vary according to the view which we adopt. The problem is more difficult than at first sight might appear, especially as the affection is more likely to come under the notice of the physician in its early, and of the surgeon in its later, stages; and that comparatively few medical men are sufficiently versed in the diagnosis of skin affections to enable them to discriminate with any degree of certainty between cases of eczema and affections which closely simulate it.

A consideration of the cases which we have ourselves observed, as well as a perusal of the literature of the subject, leads to the following conclusions:—

In persons predisposed to cancer, any local irritation may determine an outbreak of the disease at the part irritated; thus we have frequently seen an undoubted syphilitic disease of the tongue followed by cancer of that part, as the result of the long continued irritation; and just in the same way it

is possible for a simple eczema of the breast to prove the exciting cause of, and to be followed by, cancer of the mammary gland. But if we exclude these exceptional cases, we can arrive at no other opinion than that "Paget's disease of the nipple," is from the first of a malignant nature, and bears a somewhat similar relation to cancer of the breast that the so-called tylosis (or psoriasis) linguæ does to epithelioma of the tongue. This opinion is supported by the microscopic examination of the diseased structures made by Dr. Thin and others. That gentleman "believes that the evidence points to a slowly advancing cancerous change near the mouths of the lactiferous ducts, which at a very early stage leads to irritative effects in the superficial tissues of the nipple and surrounding skin, and eventually penetrates into the substance of the mammary gland."* Such being the case, it is of the utmost importance to distinguish true eczema of the breast from "Paget's disease of the nipple," towards which the following table may be of assistance:—

"PAGET'S DISEASE OF THE
NIPPLE."

1. Occurs especially in women who have passed the grand climacteric.
2. Affected surface, in typical cases, of brilliant red colour, raw and granular looking after the removal of crusts.
3. When grasped between the thumb and forefinger, superficial induration often felt, as if a penny were laid on a soft elastic surface and grasped through a piece of cloth. (Thin.)
4. Edge of eruption abrupt and sharply cut, and often elevated.
5. Very obstinate, and only yields to extirpation or other treatment applicable to epithelioma generally.

ECZEMA OF THE NIPPLE AND
AREOLA.

1. Occurs especially in women earlier in life, and particularly during lactation, or in persons labouring under scabies.
2. Surface not so red and raw-looking, and not granular, but often punctated.
3. Soft, and no induration.
4. Edge not so abrupt, and not elevated.
5. Although sometimes obstinate, yields to treatment applicable to eczema.

* Quoted by Robert W. Forrest, M.D., in a communication to the Pathological and Clinical Society of Glasgow, May, 1880.

ON A CASE OF CONGENITAL ABSENCE OF THE UTERUS AND VAGINA.

BY WILLIAM L. REID, M.D.,
Lecturer on Midwifery at the Western Medical School.

(*With a Woodcut.*)

A WOMAN presented herself lately at the Western Infirmary complaining of amenorrhea and dyspareunia, and giving the following history. She is twenty-four years of age, rather pale, but in good bodily condition. As a child she enjoyed good health. When about eighteen years of age she noticed a stain of blood on her chemise after carrying a heavy basket, and again, six months subsequently, after a long walk. This was followed by a "severe illness," lasting for three or four days, during which she had great pain in the abdomen and spasms which compelled her to "hold by the bed." Some months afterwards a similar attack was followed by swelling of her legs and feet, which did not pass off for some time. For a year thereafter, every month, and for a few hours at a time, she had a discharge of blood by the mouth. A slight feeling of burning at the epigastrium was experienced, and then the blood came up with a "soft cough." Rather more than a year ago she was married. For some weeks attempts at intercourse gave her very great pain, and were followed by more or less bleeding. By and bye the pain became less acute, but her husband complained of something being wrong, and still insists that she is not like other women. The mammae are well developed and the nipples large. The voice and features are feminine in character. Micturition and defecation are normal. There is a quantity of hair on the mons veneris, and the vulva is normal in appearance.

When I attempted to pass my finger into the vagina it was obstructed as if by a firm thick hymen, but passing the point forwards it passed freely, but apparently through a narrow part of the vagina such as I have seen in incomplete atresia vaginae. When this was overcome, a cavity was found in which the finger point could move freely, but no os uteri or vaginal roof was felt. On withdrawing the finger a constrictor muscle was felt acting, and suggested the idea that I had penetrated into the bladder instead of into the vagina. On ocular inspection this was found to have been the case. Between the labia minora, with the urethra in front and anus behind, a dimple existed (*v* on the woodcut), the surface being covered by unbroken mucous membrane. This was about

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half an inch in depth, and could be pressed inwards by the finger for about an inch farther, but only by putting the parts on the stretch. On passing a sound into the bladder (*b*) and a finger into the rectum (*r*) it was found that only a very thin layer of tissue intervened, the point of the instrument being felt as if it were in the vagina. At a subsequent examination a few days later, a finger introduced into the bladder and opposed to another passed high up in the rectum, did not detect the slightest trace of any solid body resembling the uterus or ovaries. Careful bimanual examination between the abdomen and rectum and abdomen and bladder failed in detecting anything which could be considered ovary or a rudimentary uterus. The septum in the engraving is represented running up only as far as it could be traced by recto-



vesical examination, the pouch of peritoneum filled with small intestine is supposed to begin at that point, but it may have been higher.

The following points in this case are of interest. There is no reasonable doubt that the urethra takes up the function of the vagina during coitus. The patient voluntarily mentioned the fact that after connection she passed "white stuff" in her urine, probably without knowing its import. Oldham mentions cases where, when the vagina was absent, the urethra was congenitally large, and Barnes thinks that Oldham was right in his conjecture. In the present case, however, there is the distinct history of bleeding at first, and severe pain for a length of time, apparently till the urethra became very much dilated. She still complains of pain during intercourse, but certainly

the forefinger can be passed freely into the bladder without giving rise even to discomfort. In many cases where coitus took place by the urethra, incontinence of urine was found to result. In this case the patient has perfect command of the bladder, the sphincter being felt contracting on the retreating finger.

Although neither uterus nor ovaries could be detected, there is present both sexual desire and gratification. Sir James Simpson recorded a case where there was sexual desire, but he adds nothing further. The fact that there was present for about a year a discharge of blood, the regularity of which, in a healthy woman, can be easily explained only on the supposition that it was vicarious menstruation, would point strongly to the conclusion that there must be some ovarian tissue, although not so much as to have kept up the discharge or to be readily detected by bimanual examination. It is somewhat difficult to say to what the two attacks of spasmodic pain were due. The apparently vicarious discharge happened very soon after the second seizure. Were they due to ovarian excitement not finding natural vent, or only to accidental attacks of colic?

From nothing in this patient's manner, speech, or external appearance, could one have for a moment suspected that her sexual organs were other than normal; and on the whole she might be described as a fairly strong, good-looking woman.

CONTRIBUTIONS ON DISEASES OF THE EAR.*

By THOMAS BARR, M.D.,

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No. IV.

ABNORMAL STATES OF THE CERUMINOUS SECRETION.

THE external auditory canal is lined by a prolongation of the general cutaneous covering of the body. The skin lining the outer third—the cartilaginous part of the tube—is pretty thick, and contains all the glandular and other complex elements of skin, such as sebaceous glands, papillæ, and hairs.

* See December number of *Journal*, 1881—"Foreign Bodies in the Ear."

At the inner part of this section of the canal are found the *glandulæ ceruminosæ*, which secrete the cerumen or ear-wax. These glands are identical in structure with the sudoriparous glands of the general integument; hence they are sometimes termed the ear sweat-glands. The cerumen, in the normal condition, forms a circular layer, having about the consistence of honey, at the inner part of the cartilaginous or outer section of the canal.

The secretion of the ceruminous glands may be deficient in quantity, or it may be excessive.

1. *Deficiency of Cerumen.*—This is often found in persons whose skin is dry and hard—the *glandulæ ceruminosæ* in the cutaneous lining of the external auditory canal sharing in the inactive condition of the sudoriparous glands of the general cutaneous covering. We meet with deficiency of cerumen most frequently in elderly persons who suffer from deafness due to disease of the middle ear, especially that condition known as sclerosis of the mucous membrane. The canal of the ear is then found to be dry, destitute of this natural emollient, and also abnormally wide. In these cases the ceruminous glands, after a time, become atrophied, or they even disappear altogether. It must be remembered, however, that the cerumen may be deficient simply because it is being constantly washed away by purulent discharge, or being removed by the efforts of the patient in picking the ear, or in frequent syringing with water.

The only symptom of deficiency of cerumen is a feeling of uncomfortable dryness in the ear. As has been said, it often co-exists with impairment of hearing; this, however, is not the *result* of the absence of cerumen. The abnormal dryness of the canal may rather be looked upon as an *indication* of disease in the middle ear.

The sense of dryness in the ear may be relieved by painting the walls with vaseline or glycerine. This has, of course, no effect upon the hearing. The treatment of the associated disease in the middle ear is sometimes followed by increase in the secretion of cerumen, which may happen even when no beneficial effect is produced in the hearing power of the patient.

2. *Excess of Cerumen.*—This is a much more important condition than the last. It may be due (1st) to an over-active state of the ceruminous glands, or (2nd) to some defect in the natural means of escape of the cerumen from the canal of the ear. Both of these factors may exist in a case of deafness from accumulation of cerumen in the ear.

I have often found increased secretion of cerumen in persons who perspire readily, and who have a plentiful sebaceous secretion, either from constitutional peculiarities, or due to laborious occupations. Just as in deficiency of cerumen, so here also the glands of the cutaneous lining of the ear participate in the peculiarities of the glands of the whole integument.

Irritations or congestions of the skin of the canal, temporary or permanent, are the chief local conditions which seem to excite the glands to abnormal activity. The diffuse or furuncular inflammations and eczematous conditions of the canal of the ear are apt to be followed by excessive formation of cerumen. Mechanical irritation, such as is produced by the frequent use of the point of a pen or toothpick, with the object of relieving a sense of itchiness, or of removing particles of cerumen, has a similar effect. Diseases of the middle ear, and even of the labyrinth, are frequently found associated with excessive formation and inspissation of cerumen; hence, in the most of cases, the removal of the accumulation is not followed by complete restoration of the hearing power. Roosa is of opinion that "inspissated cerumen is a symptom of an inflammatory affection of the lining membrane of the canal, or of the middle ear, which has extended to the canal." It seems undoubted that catarrhal processes in the middle ear have an influence upon the secretion of the ceruminous glands. Why, in some cases, this influence should produce increase and inspissation of the cerumen, while in others it should act in the direction of diminishing or abolishing the secretion, is not yet clearly understood. Probably when we are able to differentiate more precisely the varied pathological conditions comprised in the general term of chronic catarrh of the middle ear, we may get a solution of this difficulty.

But while there may be no actual increase in the secretion of the glands, an accumulation may take place in the canal from some hindrance to the natural escape of the cerumen from the ear. Thus its natural exit may be impeded by a congenitally narrow canal, or, in old persons, by a collapsed condition of the cartilaginous walls, reducing the lumen to a mere slit, or by the presence of abundant bristly hairs at the entrance to the ear. The existence of exostosis, hyperostosis, eczematous or inflammatory thickening in the walls of the canal, also offers hindrances to the escape of the cerumen, while in those conditions small quantities of cerumen suffice to occlude the canal.

Then the efforts employed to remove the cerumen from the

ear by those who entertain a fastidious desire to clean the interior of their external auditory canals, are often responsible for bringing about the very condition which they are endeavouring to avoid. In some, these efforts are limited to the use of a towel every morning after washing, and are sometimes excited by the sense of a drop or two of water getting into the ear. A corner of the towel is screwed into a cylindrical form, and pressed into the ear, pushing before it the cerumen, which is forced into the deep part of the canal. Others use a more elegant instrument, the "aurilave," consisting of a piece of sponge fixed to the end of a small handle. These efforts to clean the ear are unnecessary as well as futile. They generally result in the formation of hard balls of cerumen in the osseous part of the canal, or even in the packing of the secretion upon the tympanic membrane. Ordinary washing of the visible parts of the ear with the fingers will suffice to cause a cleanly appearance in adults whose ears are healthy. If, as is sometimes necessary in young children, the outer part of the canal of the ear requires special cleansing, this should be carefully done by the mother or nurse, while the part is clearly exposed to view, with the corner of a soft towel or sponge, which must be so small as to get behind the material to be wiped away.

The accumulated masses in the ear vary in composition, consistence, and colour. They consist not only of cerumen, but also of sebaceous matter, epidermic scales, and hair, as well as foreign substances deposited from the atmosphere, as coal dust, &c. Not unfrequently a small ball of cotton or some other foreign body occupies the centre of these masses. Their colour and consistence depend very much on the relative proportion of the several constituents. If they are composed to a great extent of laminated masses of epidermis, with an admixture of cerumen and other matters, they have a yellowish or yellowish-brown colour. When, on the other hand, they consist mainly of the products of the ceruminous glands, with some sebaceous matter, the colour is a darker brown, which may sometimes become deep black when there is an admixture of coal dust or other black substance from the atmosphere. The presence of plates of cholestearine imparts at times a shining appearance to the surface of the plug. The consistence of the masses presents great varieties; they may be semifluid, or soft and doughy, or they may be met with of an almost stony consistence from the complete evaporation of the watery constituents. When the plugs are very old, they often appear as gray, dry, crumbly-looking masses.

These accumulations may fill the whole external auditory canal from the tympanic membrane to the outer orifice of the ear, or they may be limited to particular parts of the canal. Occasionally there may be only a thin partition at some point in the course of the canal, sufficient, however, to impede the transmission of waves of sound.

These masses may go on accumulating during a long period of time, and may have formed in considerable quantities without causing any inconvenience to the patient, or even without his knowledge of their presence, provided that a gap, however slight, exists in the mass, or that no pressure is exercised upon the membrane. On the other hand, as soon as the lumen of the canal is completely occluded, although only by a thin partition, or when even a comparatively small quantity of cerumen has come to press on the tympanic membrane, deafness, frequently accompanied by other unpleasant symptoms, will be manifested.

The deafness may come on quite suddenly, and the patient, on that account, frequently considers that some diseased process has just affected his ear. The collection of cerumen has increased, unknown to the patient, till only a slight cleft remains, when, owing to the entrance of moisture, during washing or in the bath, some swelling of the mass takes place, and the patient is suddenly and to his dismay in a moment affected with deafness. The degree of deafness depends upon the quantity and position of the accumulation, as well as upon the presence or absence of other disease in the ear. It may be such as only slightly to interfere with the hearing of conversation, or it may be so great that, if both ears are effected, the loudest conversation cannot be heard by the patient.

For a time the degree of deafness may fluctuate considerably owing to changes in the size and position of the plug. Movements of the jaw, sudden shaking of the head, and the introduction of the finger or some instrument to allay the sense of itchiness may disturb the position of the plug. While at other times the entrance of moisture, or the drying again of previously moist cerumen, may change the size of the obstructing mass and so account for sudden fluctuations in the hearing. Ultimately, however, when the impaction and the hardening process have been completed, the deafness becomes uniformly severe.

Various kinds and degrees of subjective sounds in the ear (*tinnitus aurium*) may also be experienced by the patient. The most disagreeable buzzing, singing, or rushing noises are complained of by patients, and are sometimes much more

annoying than the dulness of hearing. These sounds are also apt to fluctuate in intensity from the same causes as modified the degree of deafness. They are due either (1) to pressure upon the membrane, and thence through the chain of ossicles upon the labyrinthine fluid; or (2) to reflex action upon the acoustic nerve from the irritation caused by pressure upon the branches of the trigeminous or pneumogastric nerves which impart sensation to the skin of the external auditory canal.

Giddiness, even of a severe kind, may also result from the pressure of the ceruminous masses.* This symptom is produced in the same way as the *tinnitus aurium*, that is, either by pressure on the labyrinthine fluid, or sympathetically through pressure on the nerves of the canal.

Cases are on record in which mental disturbance with marked hallucinations of hearing seemed based upon subjective sounds in the ear caused by the pressure of impacted cerumen, the mental disturbance being permanently cured by the removal of the impacted mass.†

In only a small number of cases does the patient complain of pain. Occasionally, however, intense pain, radiating from the inside of the ear along the side of the head, is felt. In these cases, probably the pressure of the hard mass has set up inflammation of the lining of the canal, or even of the membrane. A sense of itchiness, with a feeling of fulness or "stopping up," in the canal of the ear is more frequently present than actual pain.

As we have already mentioned, there are, in many of the cases of accumulated cerumen, other important pathological changes in the ear, such as chronic catarrh of the middle ear or disease of the labyrinth. These are probably frequently part of the same morbid process upon which the excessive quantity of cerumen depends. But the morbid changes found in the ear are without doubt sometimes the direct consequences of the pressure exerted by the plug upon the walls of the canal or upon the tympanic membrane. I have seen as the result of that pressure the lining of the walls of the canal inflamed and softened, while the tympanic membrane may be thickened, pressed inwards, and even perforated by the long continued pressure of masses of cerumen.

A few months ago I showed to the Glasgow Pathological

* See marked example of this described in paper by writer entitled, "Importance of a Knowledge of Diseases of the Ear to the Practitioner and Student of Medicine."—*Glasgow Medical Journal*, 7th January, 1881.

† See *Lehrbuch der Ohrenheilkunde*, von Dr. A. von Tröltsch, 1877. Page 566.

and Clinical Society the temporal bone of an old man who had been extremely deaf for years before his death. I found a mass in each external auditory canal of such hard consistence that only after previous saturation with an alkaline solution and repeated syringings with warm water was it possible to dislodge and remove it. On one side the canal of the ear was not only widened, but the posterior osseous wall of the canal was, as it were, scooped out and at several points perforated, the perforations communicating with the mastoid cells. Toynbee relates a similar case in which part of the cerumen had made its way into the mastoid cells through holes made by pressure in the osseous walls of the canal.

It is not surprising, therefore, that in a considerable proportion of cases the removal of obstructing masses of cerumen is not followed by complete restoration of the hearing. In only about a third of the cases of deafness associated with plugs of cerumen in the ear is their removal followed by complete recovery of hearing; in another third we find more or less improvement; while in the remaining third the removal of the plugs has no effect whatever.

Hence, if a deaf patient presents himself for treatment, having his ears plugged with ceruminous masses, we must not at once rashly promise a cure. If the deafness came on suddenly, after washing or after a bath, and if good hearing was enjoyed before, the likelihood is that the excessive secretion is the primary and only affection, and that its removal will completely restore the hearing. If, on the other hand, the deafness has come on more slowly, and if the vibrating tuning fork, applied to the middle line of the head, is heard most distinctly on the unaffected or better side, the probability is that there is another deep-seated and more serious affection, and that the removal of the cerumen will not be followed by restoration or even by improvement of the hearing. The removal of the obstructing masses is however the only sure way of solving the question.

The diagnosis of excess of cerumen in the ear is generally very easy. By the use of the speculum and reflecting mirror, or even by the unaided vision, the mass is seen to completely or partially occupy the external canal of the ear. I find that it is still necessary to protest against a method of diagnosis employed by some practitioners, namely, to syringe the ear in order to see if any cerumen comes out. Considering the simple and effective means now possessed by the surgeon of examining the interior of the ear, this unscientific practice is quite inexcusable. It is to be noted that the mass may be

so packed in upon the membrane as to form a layer on its outer surface which may, if not carefully inspected, be taken for the tympanic membrane itself. Collections of dried purulent masses, coloured with blood or cerumen, masses of fungi or cholestearine may also be confounded with accumulations of cerumen. The preliminary treatment of these conditions, namely, syringing the ear with warm water, being the same as that for excess of cerumen, such mistakes would not likely be followed by injurious consequences.

In the removal of ceruminous masses we must trust mainly to the syringe and warm water. If the mass is very hard or firmly adhering to the walls of the canal, it is necessary to use preliminary softening measures before employing the syringe. A solution, consisting of 10 grs. of bicarbonate of soda and a half drachm of glycerine to an ounce of water is more effective than the application of oils. A small quantity of this solution, after being warmed, is poured into the ear and allowed to remain for from five to ten minutes, this process being repeated several times during twenty-four hours. In cases of extreme hardness of the mass, and when it adheres very tenaciously to the walls of the canal, perhaps through the medium of little hairs, several sittings may be necessary before we are able, with the syringe and warm water, to dislodge and completely remove the accumulation. It is well to point out to the patient that the preliminary process of softening may for the time aggravate the deafness and the noises in the ear, owing to the swelling of the mass from absorption of fluid.

In syringing the ear we should select a proper syringe. For the use of the surgeon one capable of containing three ounces is of a good size. It may be made either of hard rubber or of brass; the former is lighter and warmer, but more apt to get out of order. It should be provided with a furrow or ledge, or two rings to afford a sure catch to the fingers while the piston is being pressed down by the thumb. I know an instance in which considerable injury was inflicted upon the external auditory canal from the absence of a sufficient catch for the fingers—the point of the syringe being driven into the ear owing to the fingers slipping while the piston was being pressed down. The nozzle of the syringe should be slender but not too long, and it is safer to cover the end with a soft india-rubber tube. If the extremity of the nozzle has the form of a knob, the canal of the ear is apt to be stopped up, and the injected water is thus unable to escape.

We must never use *cold* water in syringing the ear, the fluid should always have a comfortable warmth. If we syringe cold

water into the ear, not only is the effect intensely disagreeable to the patient, but in many persons the syringing will excite severe giddiness and even vomiting. Besides a dish for containing the clean water, another vessel is required for the reception of the water as it escapes from the ear. For this a tin or vulcanite vessel, with a concavity in the edge, in order to fit accurately the uneven surface below the ear, is most suitable. The comfort of the patient is not unworthy of our attention, and the drenching which patients sometimes undergo, not to mention the trickling of water down the neck and under the collar, must be avoided when syringing the ear. While the vessel for the reception of the fluid from the ear is held either by the patient himself or by an assistant below the ear, with the concave edge of the vessel gently pressed upon the skin of the cheek and neck, the point of the nozzle or the end of the india-rubber tube is placed in contact with the roof of the canal, just within its outer orifice. The auricle must at the same time be pulled upwards and backwards with the left hand, so as to straighten the curve of the canal. The stream of water is then directed along the roof of the canal where the weakest part of the plug is usually found. When the water gets fairly behind the plug its expulsion is quickly achieved. While it is important that all the cerumen be removed, we must not continue the syringing after the canal of the ear has been emptied. We should therefore examine the interior of the ear in the course of our syringing, so as to stop the operation as soon as we have washed away the whole of the mass.

Sometimes we find the plug covered with a dirty white membrane formed of exfoliated epidermis, while an accurate mould of the outer surface of the tympanic membrane may occasionally be seen impressed on the inner end of the expelled mass. In this case we easily trace an elongated indentation marking the situation of the manubrium, while a slight bulging on each side of the indentation indicates the niche on each side of the manubrium.

After the cerumen has been wholly removed, the water should be drained out of the ear, and the canal well dried with cotton. For a day afterwards, a plug of cotton should be worn in the ear, so as to avoid the evil effects of cold air upon the newly exposed canal and membrane, as well as to protect the organ from the sudden and strong effects of sound which may for a time be very unpleasant to the patient.

We have to add that the syringing produces a temporary injection of the blood-vessels of the membrane and of the inner part of the canal, which, however, passes off in a few hours.

CASE OF VOLUNTARY DISLOCATIONS OF THE HIP
AND JAW.

BY JAMES A. ADAMS, M.D.,

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ALTHOUGH cases of voluntary dislocation of the hip are occasionally met with, they are sufficiently rare to justify their being placed on record.

The medical gentlemen of this city had recently before them an exhibition by Warren, an American athlete, who could dislocate most of his joints at pleasure, and yet had such command over them that even during the most violent muscular exertions and contortions as an acrobat, the bones showed no tendency to become displaced. This case has been described by Dr. G. H. B. Macleod.* Cases of a similar nature are narrated by Sir A. Cooper,† by Brodie,‡ by Stanley,§ and others. But in the majority of these instances the individuals differed from Warren, the American, inasmuch as they were not, like him, of highly muscular development, but on the contrary were loosely jointed, shambling in movement, and of feeble muscular power.

In some respects the case I now record differs from Warren's or from the others referred to.

A young gentleman of well developed frame, aged 23 years, recently consulted me regarding an aching pain situated in the lumbar region. While stripped, and under examination, he mentioned that he was "double jointed" at the hips, and he illustrated his meaning by suddenly dislocating the head of the left femur, replacing it, and immediately doing the same with his right.

It transpired that he was only aware about three years ago that he possessed this peculiarity. At that time he happened to witness a performance of the "Vokes family," as they are called, and in trying afterwards to imitate their antics his hip joint went out with an audible click, but went back again without any positive pain or other disagreeable result.

When asked to dislocate his left femur he stood on his right leg with the toes of the left foot touching the ground; sud-

* *Glasgow Medical Journal.* May, 1882.

† *Dislocations and Fractures of the Joints.* Fifth edition.

‡ *Brodie On the Joints.*

§ *Lancet*, 1868. Vol. i, p. 617.

denly *inverting* and flexing slightly the thigh, the displacement then occurred. In this condition the left leg is one inch shorter than the right, slightly flexed at the groin and inverted, while an ink mark previously placed over the trochanter major shows that the bone has moved behind Nélaton's line, that is to say, considerably behind and above its normal position. The head of the bone could not be clearly defined, but seemed to be buried in the ischiatic notch. While the dislocation exists he is unable to use his leg without replacing the dislocation. In dislocating either limb, in which he has equal dexterity, he does not in any way aid himself with his hands. The bone does not leave the acetabulum except when he voluntarily displaces it, and the moment he relaxes the muscles that retain it in its abnormal position, it at once glides home again into its socket.

A close examination of his formation reveals nothing abnormal. He is well formed, active, is 5 feet 10 inches in height, and weighs 10½ stones.

He was not aware of his ability to dislocate any other joint, but on encouraging him to make trial, I found that he could produce either uni- or bi-lateral displacement of his lower jaw, and could also replace the bone with the sole aid of the muscles surrounding the joint. This new command over the jaw was a revelation to him, and seemed to be the limit within which farther dislocations were confined, for I tried him through a series of efforts.

This case is all the more interesting because of the facts that he only became aware of his peculiar power some three years ago, and up till the age of twenty had never attempted to distort his limbs; further, that he is in every respect a well developed active young man; and he can maintain the limb in a state of luxation for an indefinite time. In the other cases recorded the peculiarity has been usually possessed and observed from early infancy, and has been regularly practised. They are also notable as being associated with a habit of body not vigorous or robust, and, as in the man Warren, the luxation could only be maintained for a very limited time.

There is nothing in this person's history, or in that of his family, indicating a tendency to rheumatoid disease, and no member of his family possesses a similar peculiarity.

NOTES OF FOUR CASES OF CEREBRAL AND SPINAL TUMOURS.

By JOHN RITCHIE, M.B., C.M., GLASGOW.

FROM the beginning of November, 1881, till the end of April, 1882, I watched the entire history of four cases of congenital tumour in connection with the head and spinal column. No notes were made of any but the last case, which was made the subject of special observation from first to last.

CASE I. In November, 1881, a midwife asked me to see a patient of hers, who had been in labour for many hours. The woman was the mother of a large family, and had in all previous confinements been delivered without difficulty. Examination revealed a cranial presentation, but it was impossible to determine what position the head occupied. After waiting for a reasonable time, it was resolved, mainly owing to the woman's failing strength, to apply the forceps. This was not easily accomplished. Very moderate effort extracted an enormously large head, which was soon followed by a body in comparison painfully small. The bones of the head were widely separated by an accumulation of several pints of fluid. The infant gave a few spasmodic gasps, but every effort to set up respiration failed. There was an oblong brownish mark over the middle dorsal vertebræ. On examination, this was found to be the remains of a spina bifida, which had become spontaneously cured. In all probability the enlargement of the head occurred subsequently to the cicatrisation of the spina bifida.

CASE II. In November, I had an opportunity of examining with a friend a case of spina bifida in the sacral region. There was no other malformation, but the rectum and lower limbs were partially paralysed. There was a tendency to oozing of fluid from the tumour. No part of the cord could be discovered in the sac. As the case seemed suitable, Dr. H. C. Cameron performed Dr. Morton's operation, the punctures being repeated on two or three occasions. At first the tumour began to lessen and consolidate, the paralysis disappeared, and there seemed to be every chance of success; but the head began to enlarge, and steadily increased till the 8th of August, when a low form of bronchitis ended the child's life.

CASE III. The third case was a spina bifida in the lumbar region. The child was in every other respect well formed. The legs and the bowel were completely paralysed, and there

was reason to fear that a considerable portion of the cord occupied the sac. The infant did not live many days. No operation was performed.

CASE IV. On the 28th of April, 1882, I was asked to see an infant two days old. On the occipito-cervical region was a round transparent cystic tumour, of the size of a small orange, having two smaller tumours, like lobes, situated one on each side of its base. So far as one could judge, moderate pressure was attended by a certain degree of uneasiness, and by slight movements of the eyeballs. It was utterly impossible to feel the margins of the bones underneath the tumour. The palate was so deeply cleft that the child could not suckle, and it had to be fed by teaspoon. No other deformity existed, but the limbs seemed enfeebled, and for the first few weeks the thumbs were kept folded on the palms and grasped by the fingers.

On the third day after birth, the child was taken to one of our hospitals, and after consultation, it was decided not to interfere, as the tumour was supposed to communicate with the brain.

The general health was never good, and although the appetite was usually voracious, emaciation set in and increased. The tumour grew slowly, but steadily. Towards the close, the stomach was very irritable, and on the 12th of July the child died.

Dr. J. A. Adams kindly made an examination of the growth, when the following particulars were disclosed:—

Circumferential measurement in the direction of the occipito-frontal axis showed the large figure of 24 inches, while the widest part of the tumour measured 12 inches in circumference. When cut into, about a pint of perfectly limpid fluid escaped. The now empty cyst was further opened, and was found to lie between the integument and the dura mater, and to have no communication whatever with the brain cavity or with the brain. The greater part of the cerebrum protruded, but the cerebellum lay inside the cranium. This complex tumour found exit through the tabular part of the occipital bone and the ununited arch of the atlas.

Remarks.—In three of the above cases it would appear that the presence of the primary tumours had materially modified the progress of events. Thus, in the first case the spina bifida had become quiescent, and the head had enlarged; and in the second the fatal hydrocephalus did not supervene until the spina bifida had begun to heal up and prevent further accumulation of fluid. The fourth case seems to have been in the first instance an example of a purely cystic

tumour, which by its growth gradually bent back the cerebral lobes and finally dragged them outwards. In view of the *post-mortem* examination it seems fair to conclude that an operation might have been performed with some faint chance of success.

CURRENT TOPICS.

THE NORTHERN SANITARY ASSOCIATION.—The instinct of self-protection seems to be asserting itself in relation to sanitary matters at various points over the country just now. London, Edinburgh, and Glasgow, have all their Sanitary Protection Associations, and now Liverpool follows suit, the Northern Sanitary Association having just been formed in that city. From the prospectus, which is before us, we notice that the Association is under the presidentship of the Earl of Derby, and that the medical element is justly prominent on the board of direction. In general constitution and scope of proposed operations it is substantially identical with other associations of the same kind. This whole movement is one which is worthy of encouragement, and we hope the public, more especially in country districts, where Health Acts seem inoperative and Local Authorities as good as non-existent, will see it to be to their interest to support it.

EVIDENCE AND REPORTS ON THE EXAMINATION OF THE FACULTY OF PHYSICIANS AND SUR- GEONS OF GLASGOW.

IN the *Report of the Royal Commissioners appointed to inquire into the Medical Acts*, recently issued, they say—“There is a notable concurrence of opinion among the witnesses that the examinations of the Apothecaries’ Societies have not been satisfactory, and opinions to the same effect have been expressed with regard to the Edinburgh College of Surgeons and the Glasgow Faculty of Physicians and Surgeons.” (P. xi.) When this report was first issued there was some anxiety in local circles to ascertain the grounds on which such opinions had been expressed. The subsequent publi

cation of the evidence enables us to judge of the value of the opinions, and we append extracts of all the passages in the evidence which appear to bear on the matter, so far as the footnote of the Commissioners and the very full index can guide us. Some of the allegations apply to the Glasgow Faculty only, others apply to it in common with other Scottish corporations. We do not doubt that the Edinburgh Corporations can defend themselves, if they think it worth while doing so; but our present concern is with the accusations against the Faculty Examinations only, so far as they can be separated from the others complained of. This *Journal* has, of course, no special interest in defending the Faculty, nor has the writer any connection with their examinations except in so far as his hospital appointment leads to his being called upon, in his turn, to take part in the clinical examinations, conducted as these are by the physicians and surgeons at the two infirmaries of the city.

The adverse criticisms submitted to the Commissioners are of two classes:—(1) general impressions or current opinions in the English schools: and (2), definite cases adduced of men rejected, possibly more than once, in London, obtaining diplomas in Glasgow and Edinburgh. These opinions and statements are adduced by men of such eminence, and are usually couched in such temperate and guarded language as to deserve consideration.

Curiously enough, at the very time this Commission was receiving such evidence another inquiry was going on, conducted by men of the highest eminence in the profession, whose freedom from bias in such a work will be admitted by all; they were appointed by the General Medical Council, from each division of the kingdom:—viz., Mr. T. Pridgin Teale, of Leeds; Dr. Gairdner, of Glasgow; and Mr. Wm. Stokes, of Dublin. Their report was submitted to the recent meeting of the General Medical Council and has now been published. The same visitors inspected the examinations of all the corporations in England, Scotland, and Ireland, so that their report has reference to the comparative merit of the examinations as well as to their intrinsic value. As we have printed the accusations against our Faculty with great fulness, we append the report of the visitors as the best possible answer which can be given, and from this it will be seen that Glasgow has no reason to be ashamed of the Faculty examinations, even when compared with those of such distinguished incorporations as the Royal Colleges of Physicians and Surgeons in London.

The most definite and specific charges made against the Glasgow Faculty examinations are by Mr. Christopher Heath, but the tenor of all the charges is much the same. They say the Glasgow Faculty and the Edinburgh College of Surgeons give *surgical* licenses, so does the College of Surgeons of England; men rejected in London, or afraid to appear there, go to Scotland, sometimes on the deliberate advice of their teachers, and obtain in this way a place on the *Medical Register*. It would further appear that their complaint is chiefly, although not exclusively, against the primary examination in the scientific subjects. As the College of Surgeons of England does not examine in chemistry, and has only recently introduced a special examination in physiology, we presume that the main charge falls against the anatomical examinations here. Some students, therefore, it is alleged, who would certainly, or at least probably, be rejected in anatomy at the college in London are allowed to pass here. Stated thus, we think the criticism is very likely based on the actual facts of experience.

But it must be remembered that the licenses of the three surgical bodies already named are only in a technical sense *surgical* licenses, and this technical restriction to surgery has not a very wide application as regards the relationship of the profession to the general public. The really serious consideration is that these licenses, one and all, give the holder a position on the *Medical Register*, so that he becomes a legally qualified medical practitioner in dealing with any form of disorder, medical, surgical, or obstetrical, or in giving evidence in medico-legal cases, or in signing lunacy certificates, &c. In common with its sister college in Edinburgh, the Glasgow Faculty has always recognised the necessity of considering the candidate's ability for general as well as purely surgical practice. In the charter of the Faculty, procured in 1599 from James VI, the founder, Peter Lowe, although himself a surgeon and the author of the earliest British treatise on surgery, secured the co-operation of a physician, and even of an apothecary, for the due discharge of the important duties of this incorporation, which was also charged at the same time with medico-legal responsibilities. True to its traditions the Faculty has endeavoured to determine that its licentiates were fit for general practice: its examinations in anatomy are only a part, no doubt an important part, of its inquiry into the applicant's fitness for this work. Its anatomical examination is intended to be kept subordinate to this aim; it does not profess to find out those most suitable for acting as demonstrators in

the dissecting room, or the most expert at solving anatomical riddles carefully preserved in spirits. Taking in more subjects than the English College of Surgeons, the Glasgow Faculty, in the primary examination, examined on physiology for years before the other College had instituted a special examination in that subject, and also on chemistry, which is still left out at Lincoln's Inn Fields. In the second or practical department of the examination the candidates at Glasgow are examined not only on the practice of medicine (which happily the English college has now recognised) but also on *materia medica*, medical jurisprudence, and midwifery, which have long clamoured for recognition at the hands of all those who give a license entitling the holder to enter on general practice. (We are glad to find that the English College have now at last intimated an examination in midwifery for the future.) Of late years, with the establishment of clinical examinations, which were early held in Glasgow, the Faculty have insisted on the candidates undergoing an examination in clinical *medicine* although its diploma is technically a *surgical* license. We submit that it would be a distinct addition to the value of the license of the English College of Surgeons if such a supplement were made to the ten minutes' oral examination in medicine described by the visitors in their report.

On the simple ground, therefore, of *more subjects* being included in the range of the examination—which, be it remembered, is for a serious practical purpose involving the general weal, and not for a competitive display of theoretical knowledge—it is only in common fairness to be expected that the standard in special subjects should be less strict in the Glasgow Faculty than in the London College, unless it aimed, as the University of London does, at a really higher qualification.

But there is another aspect of the question. Is the examination of the College of Surgeons of England on its favourite subject of anatomy so perfectly managed that no one rejected there ought to pass elsewhere? From the evidence submitted to the Royal Commissioners, and from the report of the visitors, it would seem to be far otherwise. "The general impression which the visitors have received from what they have observed at the primary examinations of the Royal College of Surgeons of England is, that there is great risk that a candidate knowing his work fairly may be rejected," (p. 27.) Again, "In the examinations, both primary and final, of the Royal College of Surgeons of England, the absence of dissections by the candidates, and of examinations in chemistry, *materia medica*, and pathological

histology, were emphasised [by the visitors in 1873-74], and yet the same omissions were observed at the present visitation," (p. 18.) Regarding the anatomy examination, they say, "It might perhaps be objected that there was a predominance of spirit preparations over recent dissections: and it is, indeed, admitted that the preparations on which the examination is conducted are open to the previous consultation of students within the college, and are, moreover, reproduced at most of the anatomical schools," (p. 20.)

Distinguished Fellows of the Royal College of Surgeons admitted to the Commissioners that their examinations were by no means perfect. Sir James Paget thought that, in the primary examination, "the standard is rather too high," (No. 241.) Mr. Christopher Heath thought it might be modified with advantage in some ways—in the way of diminished stringency and of less uncertainty, (Nos. 4071, 4072.) Mr. Cooke, from his experience as a private teacher, stated that rejections at the College in London were frequently due to the hurry of the examination, the time being rather short, so that a man who gets flustered at the first table has scarcely time to recover himself sufficiently to show what he really knows, (Nos. 4907, 4908.) After all this evidence, need we wonder that men rejected in anatomy at the Royal College of Surgeons of England are not infrequently passed by corporations who submit the candidates to fairer and more careful examinations, even apart from any improvement resulting from subsequent study?

A question remains of real importance. Is the examination of the Glasgow Faculty really a fair one for admission to the *Medical Register*, apart from all considerations of its being more extensive than that of the English College on the one hand, or less severe in certain subjects on the other? The visitors give no uncertain answer. "The aim and plan of the examinations of this body are essentially good," (p. 37.) And they specially commend the examination in practical anatomy as being in advance of that in the London and Edinburgh Colleges, (p. 38): but we refer the reader to the extracts regarding this examination as given in full. Mr. Christopher Heath, who speaks so definitely regarding certain cases known to himself of "men of inferior intellects" who had passed in Scotland, would not say that, in his opinion, they should have been excluded from the practice of medicine, (Nos. 4039, 4040.) Mr. Cooke seems to us to express what is near the truth when he speaks of a man of good average capacity and ability, and with a good practical knowledge of his subjects

being fairly certain to satisfy the Scotch examiners (Nos. 4902, 4903), and says that "men who are insufficiently prepared do not pass them," (No. 4901.) It is also some comfort to find that even Mr. Stoker, who has extensive experience as a "grinder," and whose business it is to study the peculiarities of examiners as well as of examinations, considers the practical or final examination in Scotland remarkably good (No. 5225 to 5227), and even he is helpless in preparing for the clinical examinations in Scotland. "For Scotch clinical examinations, as now conducted, a 'tip' would be useless!" With this last satisfactory deliverance we are content to leave the matter, hoping that the reader will peruse for himself the adverse and favourable statements which we have extracted from the Reports.

J. F.

EXTRACTS FROM THE *Report of the Royal Commissioners appointed to Inquire into the Medical Acts, with Minutes of Evidence, London, 1882.*

SIR JAMES PAGET *Examined*—

241. Is not that examination [the preliminary, in Arts] in some cases too easy?—I believe the examination held by the Society of Apothecaries in London is too easy. The number rejected is, as far as I know, too small, and I think the examination is too easy there. The others I do not know well enough, except that of the College of Surgeons. I believe that at the college the examination is at a fair level, but that it should not be diminished in severity. I cannot at present speak at all of the examination at the end of the first year; that has been held too short a time. The examination held at the end of the second year, that which is commonly called the primary examination, is I think, at this time at the College of Physicians, a very fair and good one. At the College of Surgeons I think the standard is rather too high. At the last examination, out of 140 candidates, I think not less than 69 were rejected; and I know by communications with some of the junior teachers in the schools, that there were persons rejected who had worked very hard and passed their examinations in the schools very creditably, and were deemed to be good students, quite safe to have gone on with the rest of their work. I believe, therefore, that though the examination is not defective in its method, it is set at too high a standard. I have not heard the same objections made to the examinations of the same kind in the Scotch corporations; and I fully believe from all I have heard (but I am bound to say that it is only by report) that they are at too

low a standard. Let me repeat, I only know it by report. Then for the final examination, I think the standard in England is quite high enough, that no one who can pass that examination is likely to be, in any reasonable sense, ignorant of his profession, so far as he requires it for the mere beginning of his work; because it must always be understood that the examination fits a man for the mere beginning of the work in which he has to learn a vast deal more than he has ever learnt before. After passing, he is fit to begin, clear of instructors, to work in his profession, whether as an assistant or a junior partner, or in some inferior office for which he has shown himself qualified; and I think from all I know, in England at least, that standard is quite high enough. Again, however, I have to admit reports which I am bound to believe, that in the Scotch corporations they are admitted too low. The reports are distinct statements that the worst of the students in England go to Scotland; that the worst of the students, especially in provincial schools, do not come to the College of Surgeons of England, but go to the College of Surgeons of Edinburgh, or to the Faculty of Physicians and Surgeons in Glasgow. I have never heard any statement of that kind with regard to Ireland. I have never heard any suggestion, I mean in our schools, that the examinations in Ireland are in the least degree less complete than those of England; rather I should have to say from all I have heard that the primary examination, especially that in anatomy, is better than in any of the corporations in the three divisions of the kingdom.

437. You have given us certain impressions as regards the weaker candidates, at least a certain portion of the weaker candidates, not submitting themselves to examination before the College of Surgeons in England, and going to the College of Surgeons in Edinburgh for examination, and I suppose succeeding in passing there?—Yes.

438. Are those mere general impressions, or have you specific cases in your mind; I do not, of course, ask for any names?—I have not names that I can give; but the matter has been frequently talked of, and I have therefore asked teachers, and they have told me that they know instances. I took care to say in answer to the Chairman that it was only a matter of belief on my part, but it is a matter of belief on what I think is sufficient evidence.

439. Have you looked at the proportion of rejected candidates who have appeared before the examiners of those different bodies as furnished to the general Medical Council in the annual return?—Yes; I should say, concerning those, that I

have never heard that all the bad ones who go from England to Scotland do pass, but when that sum total is made up of rejections, I should not be surprised to find that it came to be nearly as great as the number of rejections in England, because they get such a much worse set of men.

MR. SAMPSON GAMGEE *Examined*—

3274. You think you could not get a sufficient security for a sufficiently searching examination in the preliminary scientific part?—So far as the examining boards have hitherto conducted their affairs, they have shown that it has been impossible to obtain that security. They have left side doors open and in the men have slipped after rejection by efficient examiners.

3275. You think that they are not to be trusted?—I judge from their acts.

3276. To what bodies would you apply that—you would not apply it to the Universities, would you?—No. I find from experience that the Colleges of Surgeons and Physicians of Edinburgh and the Faculty of Physicians and Surgeons in Glasgow let the men in the easiest. I am also informed, although I am not a member of the Apothecaries' Society of London, that the anatomical examination there is of the lightest possible kind; their surgical examination can scarcely be dignified by the name of an examination.

3277. As I understand you, you think that it would not be safe to trust these bodies now, with the chance of their letting in men with insufficient qualification, in regard to the scientific part of the profession?—I cannot say that it would.

3278. Would it make much difference so far as the public is concerned?—Men now get in who are unfit for the profession.

3279. Then you have also made certain statements as regards the migration of students from England to Scotland in order that they may obtain in Scotland a less difficult examination than they would have to be subjected to in England?—I have done so.

3280. Have you any reason to believe that those examinations to which you refer are inefficient examinations, that is to say, that they do not sufficiently test the competency of the candidate to practise medicine, surgery, and midwifery?—I know that they have let through some altogether incompetent men, who could not get through the English Boards.

3281. Do you know that of your own knowledge?—I do.

MR. CHRISTOPHER HEATH *Examined*—

3992. Are the examinations of all the English licensing bodies nearly the same?—There is a great difference in the different boards in England, of course, but men who fail at the examinations of the College of Surgeons can go and get a diploma elsewhere.

3993. Where do they generally go?—To Glasgow by preference, and sometimes to Edinburgh.

3994. Not to the Edinburgh University I presume?—No, the double license of the College of Physicians and College (*sic*) of Surgeons at Glasgow is considered the easiest, and next to that is the double license of Edinburgh.

3995. Have you yourself any knowledge from experience of the examination of the Glasgow Faculty?—I only judge by the results, I know that men who go up, who failed here, come back with diplomas.

3996. You know from your own knowledge instances of men who have failed here in the examinations of the College of Surgeons and who have gone to the Faculty at Glasgow or the College of Edinburgh, and obtained diplomas?—Yes.

3997. Have you known many such instances?—A good many scattered over the last 20 years.

3998. Could you give us one or two particular instances without mentioning the names?—I may mention one which occurred two years ago. A man was plucked the third or fourth time at the primary examination at the College of Surgeons in anatomy and physiology, he afterwards, at my recommendation went to Glasgow, and came back with a double qualification. (*The witness gave the details of this case.*)

3999. Can you give us any other instance?—Yes. (*The witness gave the details of another case.*)

4000. Have you known many such cases?—Yes.

4001. And do they occur constantly?—I do not say they occur constantly, but I have known a good many in 20 years.

4002. And you had no doubt in your own mind that the examinations of those two Licensing bodies are considerably easier than certain of the examinations of the two London corporations?—I have no doubt whatever of it.

4003. Do you consider that the examinations of the two London corporations are at all too high?—I think they are being screwed up too much, I must say, in the early subjects.

4004. In what respects?—For men who have got to get their living by practice and are badly paid, too much scientific knowledge is expected of them.

4005. In what sciences?—In physiology particularly, and minute anatomy, or you might say histology.

4006. Will you explain that a little more in detail?—I mean that men are spending now three and sometimes four years in getting through their primary examination in anatomy and physiology at the College of Surgeons, and therefore their time is used up; and then they have perhaps only a year that they can give to learn the whole of medicine and surgery.

4022. As regards the cases to which you have referred, of young men going from London after repeated pluck, and being able to pass examinations by the corporations of Glasgow and Edinburgh, would it be your opinion that they had failed here because of the unjustly high standard of examination, and that they passed there because the examination was only a reasonable one?—That may apply to one or two cases, but I do not think it would apply generally.

4023. Would it be your impression then that the examinations required by the corporations of Glasgow and Edinburgh have been below the proper standard?—That is my impression, certainly.

4033. Those candidates you have referred to, who were rejected by the College of Surgeons in England must have allowed three months to elapse before they were admitted to the examination of the College of Surgeons of Edinburgh, and a similar regulation prevails in the Edinburgh College of Physicians and in the Glasgow Faculty?—I suppose so.

4034. Then presumably those rejected candidates were engaged in study during the subsequent three months?—I think I could give a case to the contrary, in which the greater part of the three months was vacation.

4035. Still a student, although it may be vacation as regards the schools, may be engaged in private study?—Yes.

4036. You yourself in the earlier part of your career were a good deal engaged, were you not, in preparing students for examination?—Yes.

4037. I suppose you found you could do a great deal in three months?—Yes, a great deal.

4038. Is it at all unlikely that those candidates remitted by the College of Surgeons of England, spending, we will say, those three months in study, had added very materially to their stock of information?—I do not think that they had. I do not think that some men that I knew were capable of doing it; and I am certain that in one particular instance the man could not have added much to his information.

4039. Is it your opinion that those persons you have referred

to were really incompetent persons in the subjects on which they were examined?—I think they were men of inferior intellect certainly.

4040. Do you think that they were such persons as should not be admitted to practise medicine?—I do not say that, that is a very wide question.

4071. So that I suppose you would not put forward the examination of the College of Surgeons of England as a model examination?—No, I think it might be modified with advantage in some ways.

4072. And perhaps, in some respects, in the way of diminished stringency and of less uncertainty?—Yes.

MR. HENRY MORRIS *Examined*—

4592. You are now speaking solely with regard to the universities. I do not suppose you would say from your experience that persons who have failed here to pass the examinations have gone to the Scottish universities?—No.

4593. They go there to pass some of the examinations of the corporations?—Exactly so.

4594. But have you known instances of persons who have gone north for the examinations of the corporations on that account?—Certainly.

4595. You would say it is quite notorious that such things exist?—It is notorious in the schools both in London and elsewhere, I think.

MR. T. COOKE *Examined*—

4899. Are you aware of a considerable difference in the severity of those examinations?—There is a very great difference in the severity of the several examinations; the difference is tremendous. As regards the Scotch examinations, I should not be in a position to speak of them individually. I can speak of the Scotch examining bodies in general. I should not be in a position to speak of them in particular, and to compare, with any positive data, Edinburgh to Glasgow, or Glasgow to Edinburgh.

4900. You are speaking of the corporations?—I am speaking of the corporations.

4901. Will you give us your own idea of the relative severity of those examinations?—The Scotch examinations are, I think, very fair; they are thoroughly good practical examinations, taken all round. Men who are insufficiently prepared do not pass them. They are thorough and searching examinations; and, at the same time, my experience is that

ample time is allowed to the candidate to show what he really does know. I think they are very good examinations in every respect as regards the average student, that is, as regards the student who is to become the general practitioner. I should except the M.D. of St. Andrew's. I have a special note on that point.

4902. I thought we were speaking of the examinations of the Scotch corporations only. I was not referring to the Scotch universities. Should you say that the examinations of the Scotch corporations were as difficult as those, for instance, of the Royal College of Surgeons in England?—No; and yet in one sense they are. There are some men who would pass the examinations of the Royal College of Surgeons of England who would possibly not pass the Scotch examinations. At the same time, there would be a large number of men who would pass the Scotch examinations who would not pass the examinations of the Royal College of Surgeons of England.

4903. Will you explain how that would occur?—The man of good average capacity and ability, who has worked fairly during the whole of his time and acquired a good practical knowledge of his subjects, I hold, to be fairly certain to satisfy the Scotch examiners; and, I think, he would usually satisfy also the examiners in Lincoln's Inn Fields; but it is rather the brilliant and the sharp man, the man who has read a good deal, who has possibly a more, I will not say superficial knowledge, but still a more showy knowledge of details, who would be particularly successful at the Royal College of Surgeons. For the examination of the Royal College of Surgeons both a good practical knowledge and also, if I may say so, a showy knowledge, or a knowledge of little points, is frequently of value, and may turn the scale in favour of a man.

4904. Have you ever known cases in your own experience in which young men who have failed to pass the English examinations went to Scotland and passed the corporation examinations there, or *vice versa*?—I have known a great many who, having failed in London, have gone to Scotland and passed. There are a great number who do that.

4905. Is that a common case?—It is.

4906. Have you known many come from Scotland to pass in London?—I have not known many. At the same time it is but fair that I should state that I meet with a large number of London students, while I meet with a relatively small number of students from Scotland; so that the figures

I should have would scarcely establish the proportion between those who go from London to Scotland and those who come from Scotland to London. I think I can say, indeed I am sure I can say, a large number who are not successful here, who fear to face the examination here, go to Scotland.

4907. Taking a large number, what should you say was the general reason why the average of them, having failed in London, succeed in passing in Scotland?—Several reasons may be given. The examinations in Scotland are less hurried, and they are more thorough. It frequently happens that men get nervous or flustered at the London examinations; and as the time is rather short, if a man gets flustered at the first table, he has scarcely time to recover himself sufficiently to show what he really does know.

4953. You used the expression that some of the pupils feared to face the examination here in London; at the College of Surgeons, I apprehend, you mean?—Yes.

4954. And then you said they went down to Scotland?—Yes.

4955. Did that mean that they had been rejected at the examinations here and then went down to Scotland, or that they dreaded that the examinations here might be too difficult for them?—The two things would be comprised in my statement. Some had been rejected, and some felt certain, and I may say those who knew them felt certain, and I myself felt certain, that they were not sufficiently prepared, and that they would probably be rejected.

4956. I suppose you know that the Royal College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow conduct an examination which covers a much more extensive range of subjects than the examination of the Royal College of Surgeons of England?—Quite so; you refer, I believe, to the double qualification, do you not?

4957. No, I refer to the examinations conducted by the College of Surgeons and the Faculty of Physicians and Surgeons in Glasgow for their ordinary diplomas?—I have known men very deficient in chemistry. That is one of the subjects required at Edinburgh, which is not required here. Men go to what they consider the trouble of getting up chemistry, in order to be able to present themselves at the Scotch examinations.

4958. With reference to the youths who have shown this fear of facing the examinations in London, are we to understand that they are, in your judgment, so far as you have the means of knowing what their information is, persons

who ought not to be admitted to the ranks of the profession ?
—No. I do not say that.

4959. In some respects I gathered that you hold that the examinations of the corporations in Scotland are conducted in a fairer and more judicious way than the examinations of the College of Surgeons of London?—In a more uniform and more reliable way as regards the results, that is the results of the pass and the pluck. I could feel much more sure that a man fairly well up in his work would pass at the Scotch examinations, than that the same man or even a more brilliant man would pass the English examinations.

4960. Because the examinations in Scotland, you think, are conducted in a less hurried way, and are better adapted to bring out the knowledge of the candidate?—I think so.

4961. We have been given to understand by a witness who preceded you, that there was a great uncertainty in the examinations of the College of Surgeons of London; that, at the same sitting, if a candidate went to one examiner he might get through, whereas, if that same candidate had gone to another examiner in the same room he might have been rejected, and that therefore the examination is an uncertain examination; what is your view upon that subject?—The examination is somewhat uncertain, but I should not like to say so much as that. I think the examination is conducted in a very fair manner, but I think it is somewhat hurried.

4962. Time is not taken in all cases really to bring out what amount of knowledge a candidate may have?—I think that is the case at times.

MR. STOKER, Dublin, *Examined*—

5225. Have you any reason to suppose that the examinations conducted by the Scottish corporations are inefficient examinations?—I have not. I consider that their practical, or final examination, is remarkably good.

5226. With reference to this question of preparing students, I suppose you cannot lay down any rules to guide your pupils as to their clinical examination; you cannot say, I presume, to any candidate that such and such an examiner will give you a particular question; or have you any means of getting what I believe are called “tips” on the question of clinical examinations?—Very rarely. For Scotch clinical examinations as now conducted a “tip” would be useless.

5227. And impossible, I suppose?—Useless, is my point, it would be useless. The clinical examination in Scotland

is remarkably good. The clinical in Scotland is usually an examination as to the mode of conducting the examination of a patient rather than of attaching any essential value to the candidate's judgment on the case. The object is to see if he knows how to handle a case.

EXTRACTS FROM THE *Report on Visitation of Examinations*
1881-82.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THE aim and plan of the examinations of this body are essentially good, and are evidently improving on correct lines. The question on which the Visitors find it most difficult to express an opinion is as to the standard of answering that is allowed to pass current in the various Bodies, depending as it does on the individual judgment of examiners, and more or less on the traditions of the place. The Visitors observe, however, that the proportion of rejections in the Glasgow Faculty during the last three years has risen from 37 to 50 per cent. They take this as a distinct proof that the improvements in examination are acting with greater stringency upon the large numbers of the ill-prepared candidates, not educated in Glasgow, who are in the habit of coming up for examination to this body, under the impression—which the Visitors believe to be erroneous—that a low standard is adopted. The Visitors can speak favourably of the practical anatomy test recently introduced, in which the Faculty examination is in advance of the London and Edinburgh Colleges.

The practical anatomy examination was efficiently conducted by two examiners; at the cost, however, of great personal exertion. In the first place, one of the examiners had himself, with an assistant, made, in readiness for the examination, a dissection of the superficial regions of one half of the body, and again, after the fatigue of several hours of examination, the same examiner prepared deeper dissections for the second day's examination. In respect of recent dissections, the examination is superior to that of the College of Surgeons, Edinburgh, and equivalent to that of the English College. The other half of the *one* subject was used for testing all the candidates—eighteen on the first day, and the remainder, including candidates for the double qualification, on the second day. In this way about thirty candidates, two at a time, were examined practically on one half of a subject. In order to accomplish this, each candidate was told to expose a

particular nerve, or muscle, or artery. Such testing is hardly sufficient, and sometimes, perhaps, not quite fair to the candidate, who may, through nervousness, have forgotten the exact site of the particular structures—*e. g.*, the musculo-cutaneous nerve of the leg, which one candidate failed to find after twenty minutes' search. Slight changes of plan would make this an excellent examination—changes which might be based on the system adopted at the Irish College of Surgeons. Two or three subjects (instead of one) would be ample for every student to dissect a region. The candidates could be admitted eight or ten at a time, instead of two and two, and thus eighteen candidates could be disposed of in two hours at the outside, especially if four examiners, instead of two, were employed. The dissections by the candidates would provide ample opportunity for *vivâ voce* questions, and obviate the labour imposed upon the examiner of preparing elaborate dissections, besides setting one half of the subject free for the use of the candidates. The present system, whereby two examiners are engaged six consecutive hours in testing candidates, is too great a strain upon the examiners, and might be objected to by a candidate who was rejected at the end of such an exhausting examination. The oral examination in anatomy, physiology, and chemistry was carefully conducted. On this occasion nineteen, or nearly two-thirds, failed, of whom seven were rejected on chemistry alone, two in anatomy alone, and one in physiology alone, while the remaining nine failed in more than one subject.

The plan of the final examination was also in every way satisfactory. As in the primary, the examiners are selected for their special competency in the several subjects with which they are charged, the clinical surgery and clinical medicine being entrusted to the hospital physicians and surgeons, even though they are not members of the Court of Examiners. The examination in clinical medicine was conducted partly by short written notes of the case, and partly by oral questioning, the system employed by various examiners differing somewhat in detail. The testing of urine was well done, but the arrangements for the microscopical examination of urinary deposits were not on a level with the other parts of the examination. However, on the occasion of the examination for the "double qualification" this defect did not exist. The examination in clinical surgery was very satisfactory. Every candidate had to bandage a limb and to apply splints for a supposed fracture, padded splints and bandages being supplied to the candidates. At the Royal

Infirmary, the candidates were questioned on cases in the wards, and had to be distributed among such cases as were found there. At the Western Infirmary a different method was employed. The examining surgeons selected three cases from the in or out-patients, who were brought into their private room, and every candidate in turn was examined upon them, care being taken to prevent the possibility of communication between those waiting for examination and those who had been examined. The Visitors would sum up the good points of the examination as follows:—(1) The appointment of examiners to special subjects; (2) The introduction of dissection by candidates; (3) The testing of every candidate for the final examination in bandaging and the application of splints; (4) The clinical examination in surgery on selected cases brought into the examiner's room, instead of in bed in the ward; and (5) The testing of every candidate in the examination of urine. On the other hand, the following are directions in which improvements might be made:—(1) In the practical anatomy, by dissections of regions rather than the exposition of particular structures, and by conducting the *vivâ voce* examination on the dissections made by the candidate, rather than on those prepared by the examiners; (2) The use of two or more subjects, and the employment of additional examiners, so as to diminish the strain suffered at present both by examiners and candidates; and (3) The performance of operations on the dead subject by candidates in the final examination.

The examination for the double qualification of the Glasgow Faculty pertains also to that of the College of Physicians of Edinburgh, but of this examination the "primary" witnessed by the Visitors was conducted almost exclusively by the Glasgow examiners, those from Edinburgh acting merely *pro forma*, while at the final, the Edinburgh examiners took fully an equal part in the examination, and, indeed, performed exclusively the part of it relating to medicine, the examiners of the Glasgow Faculty taking the part relating to surgery. (Pp. 37-40.)

Primary Examination for License (Single).—Details of Examination.

THE candidates attended the written examination in the Faculty Hall, on Tuesday, July 19th. This consisted in papers on anatomy, physiology, and chemistry, set by two examiners in each subject. These papers were answered both

by the candidates for the "single" qualification, and by those for the "double"—that is to say, the combined examination of the Glasgow Faculty of Physicians and Surgeons with the College of Physicians of Edinburgh. The examiners looked over the answers to their own questions in preparation for the *viva voce* examination of the following day. Each examiner looked over one-half of the papers, and any doubtful papers were seen by both.

The Visitors attended at ten o'clock on Wednesday, 20th July, at the Dissecting Room of the School of the Royal Infirmary to witness the examination in practical anatomy. They were informed that this portion of the anatomical examination has been in force during the last twelve months. This examination applies to the candidates not only for the "single" but also for the "double" qualification as above defined. It was conducted by the two examiners, Dr. Clark and Dr. Knox, who had previously adjudicated on the anatomical papers. One "subject" served for the whole examination—*i. e.*, for the examination of twenty-two candidates for the "single" qualification, and of eleven for the "double." Previous to the examination the right side of the subject had been carefully dissected by one of the examiners, so as to show muscles, chief arteries and nerves, viscera of the abdomen, and the viscera of the right side, and middle of the thorax. The other side was reserved for dissection by the candidates, so that one-half of the subject had to serve for the whole thirty-three candidates. In various parts of the room were displayed materials for oral examination. On one table was a series of bones, including specimens showing epiphyses; on a second table, large models of the internal ear; on a third, dry dissections of arteries; and on a fourth, dissections in spirit.

Two candidates were admitted at a time, being selected on no particular rule from those waiting outside, and were under examination for forty minutes: half the time being devoted to dissection, and the other half to *viva voce* examination, partly on the dissection, and partly on the materials on the various tables, each examiner being occupied ten minutes. In this way the examiners continued without intermission until four o'clock—that is, for six hours, during which time they examined eighteen candidates.

The remaining candidates underwent the same system of examination on the following day, for which some deeper dissections were prepared on the right half of the subject.

Candidate No. 1 was taken to the dissected side of the

subject, and required to point the arteries of the fore-arm, to state the course and the relative anatomy and branches of the radial artery, also of the ulnar and anterior interosseous artery; to indicate the various superficial muscles of the anterior aspect of the fore-arm; and to make a dissection of the musculo-cutaneous nerve of the leg. The candidate spent about twenty minutes in dissecting off the skin and seeking for the nerve, which he failed to find. He was "referred."

Candidate No. 5 having dissected the radial artery in the fore-arm, was examined on the base of the skull and its foramina and the structures that pass through; on the sinuses; and on the teeth. He was then examined by Dr. Clark on a dried preparation of the internal mammary artery, on the intercostal arteries and muscles, the sterno-clavicular articulation and its interarticular cartilage; on the recently dissected subject, the coeliac axis and superior mesenteric artery, the transverse colon and its characters, the intercostal arteries, the diaphragm seen through an opening in the thoracic wall, the anterior mediastinum, the internal mammary artery, and the relations of the phrenic nerve and its course in the thorax.

Candidate No. 3 having dissected the Sartorius muscle, was asked the action of the muscle, its nervous supply, and the artery to which it is a guide. He was then examined on the adductor longus muscle, and asked the boundaries, shape, and contents of Hunter's canal. Subsequently he was examined on the inferior mesenteric artery, on the relative anatomy of the common iliac artery; and asked to state at what point it commences and at what point it terminates; and the boundaries of the inguinal canal and internal abdominal ring were fully discussed. Dr. Clark examined him on the astragalus, and asked to which side it belonged, with what bone it articulated, and the various ligamentous attachments to it. He was also required to recognise several of the small bones of the carpus.

The examination of several other candidates was conducted in the same method and with the same degree of care.

The examiner from Edinburgh took the place of one of the other examiners for a time, in order to conduct the examination of the candidates for the "double" qualification. The Visitors returned to the examination in the afternoon, and found that the Edinburgh examiner had been obliged to leave at the end of an hour, and that the examination for the double qualification was being continued by the other two examiners, who were thus at work without intermission from ten o'clock in the morning until four p.m. The examination of the candi-

dates for the "double" qualification was essentially the same as that of the candidates for the "single."

On Thursday 20th July, two p.m., the Visitors were present at the commencement of the oral examination, which was being carried on by the examiners in physiology—Dr. M'Vail and Dr. Fleming. The examination in histology had been conducted in the following way:—During the written examination in physiology, four microscopes were placed in the room, with one microscopical specimen under each. The microscopes were numbered, and each candidate was asked to write down on a sheet of paper the name of the specimen according to the number. This paper was retained by the examiner and counted as the answer to one written question, and marked accordingly.

The examiners were sitting at a table, on which were placed a series of Klein's microscopical drawings of the elementary tissues, and there were also various instruments connected with practical physiology. The candidates were admitted one at a time, and had an examination of about twenty minutes each, the time not being rigidly adhered to, but varying according to the course of the examination, and what appeared to be necessary to satisfy the examiners.

Candidate No. 1, examined by Dr. Fleming, was handed a drawing of a microscopical section of the skin, and asked to point out and name the various elements that were illustrated. He was then examined on the various functions of the skin, on bodily temperature, and how it is regulated by the skin; how the body loses heat; on the mode of estimating blood pressure; the cause of the pulse-beat, and the effect of the division of the sympathetic nerve of the neck.

Candidate No. 2, examined by Dr. M'Vail, was asked, when a person took a piece of bread and butter in his mouth what changes it underwent. This text opened to the examiner a wide field of examination. The candidate was also asked what sort of information the gustatory nerves give under such circumstances. He was then examined on the fifth pair of nerves at some length, and minutely on the physiology of salivation, deglutition, and the functions of the various nerves connected with these processes:—"How is the glottis guarded? how are the nares defended? where is the nerve-centre which regulates these processes? what is the chief afferent nerve?" He was then examined on the constituents of bile:—"What are the bile salts? what other functions has the liver besides secreting bile?" Subsequently he was questioned on the muscular tissue of the pharynx and heart,

and asked how voluntary and involuntary muscular fibre differ histologically, and to point out these different structures on a diagram.

At 6:30 p.m. the Visitors attended the physiological examination for the "double" qualification. An examiner from Edinburgh, Dr. Andrew Smart, having taken the place of Dr. McVail, conducted, along with Dr. Fleming, the examination of candidates for the double qualification. This examination was similar to that already described.

The examination in chemistry commenced at the same time as that in physiology, in another room in the Faculty Hall, and was conducted by Dr. Perry and Dr. Lindsay. On a table were bottles containing various ordinary chemical salts. On another table there were test tubes and various re-agents. Each candidate was examined separately for about twenty minutes.

Candidate No. 1 was questioned on milk and its composition, reference being made occasionally to his written paper. He was given hydrochloric acid, and asked to find out by test what it was.

Candidate No. 2 was questioned closely on the laws of chemical combination, and was given nitric acid to test. This candidate answered promptly, and got a good mark in *viâ voce*, having obtained but an indifferent one for his paper.

Candidate No. 3 was questioned on iodine, its manufacture and tests; also on the various compounds of iodine, such as iodide of potassium, &c. The physical properties of iodide of potassium were discussed. He was also questioned on the composition of normal urine and on the mode of taking its specific gravity.

Candidate No. 4 was examined on carbon and its compounds. He was asked to explain what is meant by binary, ternary, and quaternary compounds, and to give examples; to state what is the general elementary constitution of fats, what elements enter into the composition of milk, and what salts it contains. He was also asked how to obtain nitrogen, what its properties are, and to give illustrations of its importance in relation to food.

Candidate No. 5, after a series of questions, was given some red oxide of mercury and a test tube, and asked to heat it at a spirit lamp, and then explain the changes which took place.

Candidate No. 6 was examined mainly on sulphurous acid and its modes of preparation.

Occasionally the candidates were asked to name the subjects

in chemistry that they would wish to be examined on, and from this point the examiner started.

At six p.m. the examiner from Edinburgh, Dr. Stevenson Macadam, arrived, and took the place of one of the other examiners; and then the candidates for the double qualification were examined in the same manner, one at a time.

Examples will indicate, to some extent, the range of the examination of candidates who *failed* in chemistry on the second day of the oral. One candidate, whose examination turned mainly on the composition of fat, received only 30, while in the written examination he had received 55, but the low mark in the oral involved his rejection. Another candidate was unable to state the composition or the mode of combining the ingredients in tartar emetic, and was also imperfectly informed as to iodine, its chemical relations and how it is obtained. Indeed, his examination on this subject showed almost complete ignorance, besides which, his paper was quite below the mark. His marks were—paper 35, oral 25. Another candidate, told to combine sugar with sulphuric acid in a test tube, and heat so as to cause charring, could not explain what had taken place. He was also asked to test with chloride of barium a solution containing sulphates, and when questioned as to whether it was a test for sulphuric acid in combination or only free, he answered “only free,” further questioning on this subject not improving his position. He was ignorant of the composition and uses of sulphates generally, and equally so of the composition of the atmosphere. On his paper and oral he got 30. Another candidate, whose paper was marked 40, was asked to test for chlorides, which he did with nitrate of silver. When ammonia was added, he was quite at a loss to know what took place. When asked about carbonate of lime, and what would happen to it when burnt, he said calcium would be got. “What! the pure metal, calcium?” “Yes.” In this respect, however, as in some others in the after part of the examination, a doubt existed as to whether nervousness had not somewhat unhinged the candidate; and as he had answered some questions well, 60 was given him with a query, on the principle that his oral and written together might come near 100, but still be below par unless redeemed by other subjects. This candidate was ultimately rejected in physiology. Another candidate, whose paper was marked 40, was asked about oxygen, its functions and importance; its presence in water; how much in 9 lbs. of water (as to which no approximate answer was given); its presence in the crust of the globe; the nature of oxidation as

a chemical process; whether rapid or slow; how it takes place in the case of sodium and potassium; oxidation of carbon; phenomena of combustion; the compounds of phosphorus with oxygen, and of hydrogen with ditto. On all these subjects the answers of the candidate were considered to entitle him only to 30. Another candidate was examined on testing an acid fluid, on the properties of sulphur and its compounds with oxygen, and finally, on water and its boiling point, which he did not know, having apparently no idea of the graduation of the Fahrenheit or Centigrade thermometer. This candidate was also rejected.

A considerable number of these candidates came from other parts of the kingdom, and it may with great probability be inferred that they had failed elsewhere in examinations for their surgical diplomas, in which, perhaps, chemistry may not have formed an essential element, or an element at all.

On Thursday, at 6:30 p.m., the Visitors were present at the Faculty Hall, to hear the adjudication on the candidates who had gone through their primary examination. The following examiners were present:—Dr. Perry (in the chair), Dr. Lindsay, Dr. McVail, Dr. Clark, and Dr. Knox. As each name was called out, each examiner read out the marks he had given. This applied both to the single and the double qualification. If any candidate had got less than 100 marks (*i. e.*, an average of 50 each for paper and oral combined) in any one of the three subjects—anatomy, physiology, or chemistry—he was rejected. There were, however, two exceptions. One candidate had got more than the average marks in anatomy, more than the average marks in physiology, and was 5 only short in chemistry, his written examination in chemistry having been satisfactory. On consultation, the examiner in chemistry consented to raise his marks by 5, to enable him to pass. Another candidate had done well in chemistry and physiology, but was below the mark in anatomy both in the written and *viva voce*. The examiners in anatomy thought that he was very nervous, and probably did not do himself justice. They therefore proposed to the Court that he should be again examined in anatomy with the assistance of one of the examiners in physiology, and that if he satisfied them on re-examination he should be considered as passed. The candidate ultimately passed. Of thirty-three candidates, one had withdrawn, another had still to be re-examined, leaving thirty-one, of whom nineteen were rejected and twelve passed. Of the nineteen rejected candidates, two were rejected in anatomy alone; one in physiology alone; seven in chemistry alone;

four in all three subjects; one in anatomy and physiology; one in anatomy and chemistry; three in physiology and chemistry; so that of the whole number of candidates fifteen failed in chemistry, and would have been rejected in that subject, apart from having failed in others. The Visitors were informed that at this period of the year they generally get an inferior set of candidates, and that many of those examined had been rejected before, some of them several times.

Final Examination for License (Single).—Clinical Medicine.

ON Friday, 22nd July, the Visitors attended at the Royal Infirmary, Glasgow, where a clinical examination in medicine was being conducted by Drs. M'Laren and Charteris, both of them physicians to that institution. The examination was held exclusively in one large ward. There were only six candidates. This limited number was attributed to the fact that many candidates for the surgical diploma had already obtained a medical qualification elsewhere, in which case no examination in medicine or clinical medicine is required by the Faculty. In this examination each candidate was placed with a sheet of paper at the bedside of a patient, and told to examine and report briefly on the case, the time given not being sufficient for a full report, but only for notes, to be supplemented by a *viva voce* examination, which was invariably carried out afterwards. In some instances, more than one case was employed in the subsequent part of the examination, but the candidate was generally required to read off his own notes, and questions were asked upon these. Specimens of urine, illustrating morbid varieties, were upon a table. The candidates were questioned upon these, one specimen containing a muco-purulent sediment, and another containing bile pigment, being employed for several of the candidates. The candidates were asked to determine the specific gravity of urine, to test it for albumen, and in various ways to show their knowledge of the ordinary clinical operations on it. Two microscopes were used, one of which had a specimen of uric acid displayed, and another triple phosphate crystals, somewhat broken and confused, in the midst of a number of other possibly foreign sediments. More than one candidate failed to recognise these crystals of phosphates, but perhaps, under the circumstances, the specimen was not quite so definite as might have been desired. The knowledge of

physical signs was tested chiefly by auscultation practised in the presence of the examiner, and the candidate was invited to percuss, to listen to the heart sounds, &c., and state his general impressions, but in most instances without having to specify the phenomena in detail.

Individual cases will illustrate the character of the examination:—Candidate No. 1 had an average case of phthisis to report upon, in which the left apex was chiefly involved. He made out the main points correctly. He was also examined upon several specimens of urine, the result of the inquiry being satisfactory. Of the two microscopic specimens he recognised the uric acid, but failed to identify the phosphates. Candidate No. 2 was examined upon a case of rather remarkable pigmentation of the skin, which Dr. Charteris, who had seen a good deal of the patient, considered to be one of Addison's disease. However, it differed from the ordinary type of pigmentation in Addison's disease, as being, to a marked extent, patchy, and also peculiar in its distribution. The diagnosis here, of course, must be considered an open question, but on the whole the symptoms, as well as the skin affection, seemed to indicate the true diagnosis to be as stated. The candidate took this view of the case, and gave a fair account of it from his own personal investigation. He also correctly observed and defined a case of ordinary phthisis. This candidate was decidedly the best of those examined. The Visitors thought that the examination might have been made more searching, though probably not more conclusive, by asking questions of detail as regards the candidate's knowledge of the usual characters of the discoloration, and the peculiarities of the variations in this case as compared with other cutaneous affections resembling it. The candidate was ultimately rejected on surgery alone, though his marks on all the other subjects were considerably above the average. Candidate No. 3 was examined in the first instance upon a case of purpura, which he designated correctly, but, so far as the Visitors observed, without showing much knowledge of detail. It was evident that he had seen the disease before, and was able to differentiate it. The same candidate was shown a case of chorea, and questioned generally upon it, particularly the treatment, his answers being in the main correct. Asked to auscultate a patient, he at once declared that he could not hear anything "with his ears," his explanation being that although he could hear conversation correctly, he could not hear with the stethoscope in consequence of an injury to his ears from a blow received in childhood. Not-

withstanding this alleged infirmity he was requested to listen to the sounds of the heart, and said correctly that they were normal. He was next examined on two specimens of urine, and in the course of his examination he could not take the specific gravity, having apparently no knowledge of the urinometer, nor of what was to be inferred from the degrees upon it. He volunteered the information that this instrument was not used in the city or the hospital where he studied. To a question, put by one of the Visitors, he answered that one of the physicians of the hospital was rather a specialist in skin diseases, and that he had seen a case of purpura previously under this physician, who gave him a lecture upon it. This candidate was examined on the urine containing the bile pigment, which he at once recognised and detected by means of the nitric acid test. He also succeeded in naming one of the two microscopic objects.

The examination, as a whole, was carefully conducted, and as ample materials existed and were employed, it might be said to be both fair to the candidates and satisfactory as testing at least average knowledge of clinical medicine. However, more might have been made of the cases employed had the questioning upon the candidates' observations been somewhat more varied and extended. The presence of six candidates at the same time in a ward is apt to lead to confusion as regards the result, and would do so still more if the number were larger. As a general rule, the actual questioning of each candidate should be so conducted as to be out of sight and hearing of the other candidates. In the adjudication of this examination, the examiners expressed their own views of the candidates by marking the majority of them at 50, which was just a bare pass, if satisfactory in other subjects. To the question why none of them was marked below 50, the answer was, because in clinical medicine any mark below 50 was interpreted as an absolute stop, whatever the marks in other subjects, and the wish of the examiners was to leave a possible chance of passing, if otherwise good.

On Thursday, 21st July, 4.30 p.m., the Visitors attended at the Royal Infirmary to witness the examination in clinical surgery, which was conducted by Dr. Morton and Dr. M'Ewen. These gentlemen are not members of the Examining Board, but the Faculty performs its clinical examinations by the surgeons and physicians to the hospitals, who examine the candidates clinically, and report to the examiners their judgment on that part of the examination. Six candidates out of eleven for this examination were present. The other

five were to be examined in clinical surgery at the Western Infirmary on the following day. Every candidate was required to apply a bandage and a splint to a sound limb for a supposed fracture, the necessary apparatus being supplied to him. One candidate was told to adjust a fractured clavicle; another to apply a splint for Pott's fracture. The candidates were next questioned on some cases in the wards—one a case of un-united fracture of the femur. This case supplied a text to the surgeon, from which he questioned the candidate on the whole subject of pseudarthrosis and its treatment. The candidate was next taken to a boy whose leg had been struck by a cricket-ball about a week before, and was asked to discover the injury, and he rightly came to the conclusion that no substantial injury had been received—at any rate, that no bone was broken. Another candidate was examined on a case of spina bifida in a child about a year and a-half old, and also on the case of un-united fracture already mentioned.

On Friday, 22nd July, the Visitors arrived at the Western Infirmary at 11.15 a.m., towards the close of the clinical examination in surgery of the remaining candidates, five in number. This was being conducted by Dr. George Buchanan and Dr. Hector Cameron. The method in this instance was rather different from that at the Royal Infirmary. The candidates had already put up a supposed fracture, and had been questioned on it. The splints and other materials for putting up fractures were arranged in a row close by, and the candidates were told to select from the apparatus what they needed for the particular fracture, and if anything they required was not present, to ask the examining surgeon for it. The candidates were then placed in a room by themselves, and called out, one by one, into the surgeon's room, and there had to examine and diagnose three cases—one of epithelioma, a second of hydrocele, and a third of perineal fistula with stricture. They received a searching examination on the diagnosis, pathology, and treatment of these cases. As a rule, each candidate got two of such cases to recognise and answer on; but occasionally, in the case of a doubtful candidate, a third case was allotted to him. All the candidates were questioned on these three cases. When the examination had concluded, they were dismissed from the hospital, care being taken that no communication should take place between those who had been examined and those who were waiting for examination.

On Friday, 22nd July, three p.m., at the Faculty Hall, the examiners in surgery were Dr. Hector Cameron—who had

taken part in the clinical examination in the morning—and Dr. Dunlop. The candidates are examined, as a rule, at the rate of eight a day, about twenty minutes being allowed to each, more or less, according to circumstances, and sometimes half an hour in the case of a doubtful candidate. There were bones and dried anatomical preparations on one table, and on a second a series of surgical instruments.

Candidate No. 1 was examined on the subject of vesical calculus. He was required to state the symptoms of the disease fully, and the affections for which it may be mistaken. Then from the table on which the instruments were, he had to select those that are necessary for the operation of lithotomy. He was asked to describe the position the patient is placed in immediately previous to the operation, and to answer a few questions on the operation itself. The next subject that the candidate was examined on was fracture of the clavicle. He was asked on what portion of the bone it most frequently occurs, the general etiology of the injury, the varieties of the fracture that are met with, and, finally, the most appropriate treatment for the accident.

Candidate No. 2 was examined on the subject of popliteal aneurism. He had to define what is meant by an aneurism, and the symptoms that characterise the disease, and the various kinds of treatment adopted, such as pressure, flexion, ligature, and cutting into the aneurism, and tying both ends of the artery, &c. The spontaneous cure was also discussed. The next topic was fracture of the base of the skull, and questions were asked on the way in which the injury is produced, the signs of it, and the appropriate treatment.

The other subjects questioned on were tumours of bone, fractures of the tibia, fractures of the patella, fractures in the vicinity of the ankle joint, disease of the rectum, hernia, and hydrocele.

Dr. Scott Orr and Dr. Wood Smith examined alternately in the subjects of medicine and materia medica. Candidate No. 1 was questioned on coma, on the causes of loss of consciousness, from the heart, from a blow on the head, apoplexy, and kidney disease; the treatment for poisoning by opium; the symptoms of acute rheumatism; and on typhoid fever. By the other examiner in materia medica he was asked to identify sulphate of copper, and specify its uses in medicine, and how to prescribe it for diarrhoea; questioned about aloes—on the dose, which he said was 2 to 8 grains; about the dose of liquor strychniæ—how much strychnia there is in an ounce of the liquor; about squills; the dose of powdered elaterium; the

dose of infusion of digitalis and of powdered digitalis ; and to write a prescription for a diaphoretic mixture.

The midwifery oral examination was conducted by Dr. Tannahill and Dr. Stirton, who examined the candidate over an extensive range—the management of breech presentation ; on flooding ; placenta prævia ; and unavoidable hæmorrhage and accidental hæmorrhage. On the table were the usual obstetric instruments, a female pelvis, and a foetal skull.

In another room Professor Simpson was the examiner on medical jurisprudence, and Dr. M'Ewen acted as assessor. One candidate was examined first on wounds, on the varieties of them, lacerated, punctured, &c. ; the special dangers that attend wounds of the head and of the face ; the various causes of death from wounds ; and the mode of distinguishing between suicidal and homicidal wounds. The candidate was also examined on the preparations of cantharides.

Another candidate, examined by Dr. M'Ewen, was required to recognise spermatozoa under the microscope. He was then examined on rape and the mode of recognising a spermatic stain. The candidate was also examined as to the nature of vaginal epithelium ; and on blood—the chemical tests for it, and the microscopical appearances of it. Lastly, the candidate was examined on the differences that exist between wounds inflicted during life and after death. This examination was satisfactory. (Pp. 116-128).

REVIEWS.

A Concise Handbook of the Laws relating to Medical Men.
By JAMES GREENWOOD, of the Inner Temple, Barrister-at-Law. Together with a Preface and a Chapter on the *Law relating to Lunacy Practice*. By L. S. FORBES-WINSLOW, M.R.C.P. Lond., M.B., D.C.L. Oxon. London: Baillière, Tindall, & Cox. 1882.

Few years pass without some parliamentary legislation which has a direct bearing upon the duties and responsibilities of the medical profession, and every year decisions are given in our high courts of justice which shed fresh light on doubtful clauses in former legal enactments relating to medical practice. We are, therefore, indebted to the author of this little hand-

book for giving us a concise epitome, not only of the most important laws bearing upon medical men, but also of the most recent decisions of our judges in disputed cases. A preliminary chapter is devoted to a short account of the statutory laws having reference to medical matters from the time of Henry the Eighth down to the passing of the comprehensive Medical Act of 1858. The author then gives a very complete account of the legal rights and privileges of the various Medical Corporations, and of the duties and responsibilities of their graduates. The chapter on Medical Evidence is well written, and the subsequent chapter on Malpraxis is very full and exhaustive. A short chapter is contributed by Dr. Forbes-Winslow on the Law relating to Lunacy Practice. This is, perhaps, the most unsatisfactory part of the book. The greater part of this chapter is occupied by a bare enumeration of the titles of the various Acts of Parliament relating to Lunacy, and the information given for the guidance of practitioners is of the most meagre character, and not altogether accurate in statement. Dr. Winslow tells us that "many medical men's prospects have been ruined by some trivial infringement of the Lunacy Law, committed in ignorance." The errors which he enumerates are—"1st. Giving circumstances and facts in the certificates which have not been observed, by the medical man signing, on the actual day of making the examination of the alleged lunatic. 2nd. Examining the person in the presence of another medical man. 3rd. Stating facts which are false. 4th. Signing a certificate, and though qualified not being registered." While any of these errors would certainly invalidate the document, the medical man is only liable to serious legal penalties where he has *wilfully* signed a false certificate, or where he has been guilty of *gross* negligence in conducting the examination. We would recommend the author to re-write this chapter, and in doing so, to give fuller and more accurate information. That Dr. Winslow's knowledge of the literature of legal medicine is comparatively small may be gathered from his preface to the volume, in which he informs us that until the work under review was undertaken, little, if anything, had been written on the subject, so as to bring it prominently before the medical world. He has evidently never heard of the well known works of Messrs. Weightman and Glen, or of the admirable epitome of the laws of the medical profession annually contributed by Mr. Glen to Churchill's *Medical Directory*.

In an appendix, Mr. Greenwood gives a short analysis of the principal statutes relating to medical men, in alphabetical

order, and a very interesting chapter on Assaults on Patients, giving an epitome of the most recent decisions of the Law Courts in cases of alleged assault in the examination of female servants and of lunatics. These decisions warn us how circumspectly medical men should act when called upon to examine young girls and women by their employers. Although they do not resist examination, if they do not expressly consent to it, both the employer and the medical examiner render themselves liable to an action of damages for assault. In the next edition of his work Mr. Greenwood would do well to incorporate the latter part of this chapter with the chapter on the law relating to lunacy, to which we have already referred.

Considering the small size of the volume, and its very moderate cost, it comprises a great variety of interesting and important matter, and we can heartily commend it to our readers "as a short and plain epitome containing the most material heads." It is admirably suited as a guide to the busy practitioner, who frequently runs great risk of becoming involved in legal penalties in consequence of an imperfect knowledge of the law.

Indigestion, Biliousness, and Gout in its Protean Aspects.

Part I: Indigestion and Biliousness. By J. MILNER FOTHERGILL, M.D. London: H. K. Lewis. 1881.

Chronic Bronchitis: its Forms and Treatment. By J. MILNER FOTHERGILL, M.D. London: Baillière, Tindall & Cox. 1882.

A REVIEWER has some difficulty in keeping pace with Dr. Fothergill, and can hardly help wondering how the author can find time for the writing of such voluminous productions, or for acquiring the stores of personal experience to which he so confidently refers.

An examination of the book on "Indigestion and Biliousness" no doubt lessens our wonder. We find whole pages transferred from Dr. William Roberts, the late Dr. Murchison, and others, so that the actual labour is thus materially lessened. Our readers must not, however, suppose that in thus quoting freely from others the author sinks his personality; far from it. The following highly suggestive extract serves to hint that there is such a person as Dr. Fothergill:—

"The treatment of indigestion is like the fitting of a suit; there are the three component parts of the suit—coat, waist-coat, and trousers—to be seen to. Two may fit, but the third does not. So in dyspepsia! Or the whole may be badly made or ill-fitting. The treatment of a complex malady is like the making of a suit; it has got to fit the individual exactly. Some persons can go into a ready-made shop and buy an article which may fit very fairly. So some dyspeptics only require pepsin wine for their cure. But this is not the rule; rather is it the exception. Some people are 'bad to fit,' in tailor's phrase, and tailors differ in their capacity. Some people are not 'easy to treat,' and perhaps all medical men are not alike in their capacity. Then, again, there are some persons whom even very competent tailors cannot fit; only one tailor can manage to fit them. So there are a proportion of persons who find out that one medical man alone can prescribe satisfactorily for them." (P. 3.)

Dr. Fothergill, at the "Suburban Society," is a figure evidently, if once seen, never to be forgotten; whether as regards his admirers or despisers, he preserves the same lofty superiority; fortunately the sketch is by himself. He says:

"I remember well, not many months ago, reading a paper before a large Suburban Society, upon the desirability of sweeping the accumulated nitrogenised waste out of the blood, in certain cases of dilated heart with enlarged liver, when in the discussion which followed, several gentlemen of various ages asked if I thought a mercurial at times permissible in such cases, as timidly as if they felt themselves liable to be suspected of wishing to resuscitate the Druidical faith, or exhibiting a latent belief in the old notion that 'nine live lice upon a piece of bread and butter' were the most appropriate and effectual treatment of an attack of jaundice. And on assuring them that I not only thought such remedial agent permissible and lawful, but even approved thereof, they seemed immensely relieved; while several and sundry others present interchanged a significant glance, as if they thought I was the subject of incipient general paralysis; indicating, too, that my utterances in future would receive no regard or countenance from them." (P. 251.)

In the treatise on Bronchitis we have numerous quotations no doubt, although not the wholesale transference of pages found in the other volume. There are, however, some *very* striking woodcuts repeated in different parts of the book in a manner happily hitherto uncommon in medical literature. These, we learn from the preface, "illumine the text."

Spasmodic Asthma: a Thesis for the M.B. Degree of the University of Cambridge. By W. E. STEAVENSON, M.B., M.R.C.S.Eng. Second Edition. Cambridge: Deighton, Bell & Co. 1882.

THIS little thesis, written by a sufferer from the complaint described, is interesting in so far as it advances somewhat different views from those generally held. The author denies the existence of spasm of the small bronchial tubes, and considers the distress to arise rather from a spasm of the muscles of inspiration. He thinks electrical conditions are probably potent causes of asthmatic attacks, and he would be disposed to try statical electricity—the patient being charged positively—as a method of treatment. He regards the use of morphia subcutaneously as the most potent remedy during an attack.

A Handbook of Therapeutics. By SYDNEY RINGER, M.D. Ninth Edition. London: H. K. Lewis. 1882.

THE appearance of new editions of this work at intervals of a year or thereby seems to indicate to the reviewer that the book is now so well known that his duty may be safely limited to notifying the fresh issue.

REPORTS OF HOSPITAL AND PRIVATE PRACTICE.

WESTERN INFIRMARY.

REPORTS UNDER THE SUPERVISION OF DR. W. G. DUN.

FROM DR. GAIRDNER'S WARDS.

TWO CASES OF PERICARDITIS, WITH ENDOCARDIAL MURMUR REVEALED AFTERWARDS. [Reported by Robert Beith, M.B.]—The following cases are of interest as much from their divergencies as from the fact that both were cases of acute rheumatism complicated by pericarditis, the presence of which prevented for a time the detection of an endocardial murmur:

1. Mrs. M., æt. 28, was admitted to Ward VI of the Western

Infirmary on 22nd May, 1882. She had been affected with sharp pains in most of her joints for about three weeks before admission, and pain in the left side of her chest had also been present for a similar, if not even a longer period; a short cough was also mentioned as having troubled her during the same time. On admission the articular pains had in great part subsided, and swelling of the joints, which had been observed by herself before admission, was seen to be but slight, although the skin continued hot and covered with perspiration, which had the peculiar odour characteristic of rheumatic fever. There was a certain amount of orthopnoea present, and this had been so more or less since her illness began. The patient explained, however, that she assumed the sitting posture because she coughed more when she lay down in bed. The lips were not livid, although the face was somewhat flushed. Pulse was 108, and with a certain thrilling character; respiration 40, and with no appearance of undue effort. Temperature during the two days after admission ranged between 100° and 102° F. Pain in the region of the heart was pretty constant and severe; and she had a short cough, with a frothy mucous expectoration.

Examination of the cardiac region revealed considerable increase of the area dull to percussion, both in the direction of the right margin and towards the base; the left margin could not be well defined on account of the presence of a district dull to percussion in the left lateral region; the right margin crossed the mid-sternum to the extent of about $\frac{3}{4}$ of an inch, and the base reached, by its pointed extremity, the upper border of the second rib. Auscultation detected friction sounds all over this dull area, these being most loudly heard in the vicinity of the presumed apex beat. The heart could be felt pulsating in the normal intercostal space, but considerably outside of the nipple line; the pulsation, however, was not definite, and could scarcely be called an apex beat. The friction sounds were lost when the stethoscope was moved for the smallest distance beyond the district of præcordial dull percussion.

A blister was applied to the right of the cardiac region, and a saline mixture was prescribed.

On the 24th of May pulse and respiration were observed while the patient was asleep, and were found to be 98 and 44 respectively, the former being quite regular, having still a thrilling character, a little suggestive of aortic incompetency, and the latter being somewhat gasping and rather shallow. She herself felt better in respect that the pain in her chest

was less. Her cough remained very much as it had been on admission. The friction sounds remained present, but had lost to a considerable extent their harsh character, especially in the apex region; over the right ventricle these sounds were as harsh as ever. She still retained the sitting posture in bed. No endocardial murmur could be made out; but it was observed that a distinct blowing murmur, V.S. in rhythm, was heard in the subclavian artery. Temperature still remained about 101° F.

On 26th May some diminution of the area of dull percussion was noted, and the patient herself felt considerably better, especially as regards the thoracic pain, of which, in fact, she did not now complain except when particularly asked. Cough still troubled her at night, although expectoration was small in amount and of little importance in character. The friction sound was still present to such a degree as to conceal any endocardial abnormality.

On the 29th May continued improvement was recorded; cough was now less troublesome, and the temperature had fallen to about 100° F. or below it; retraction of the dulness, especially of that towards the manubrium sterni, was also noticed. Pulse 88, and respirations 30.

Improvement of all the symptoms went on pretty uniformly during the next ten days, although the temperature on one or two occasions tended to rise slightly; and on one occasion slight pain in the cardiac region was felt. Articular pains were also occasionally spoken of, but only in reply to questioning, and not as if they were of any great severity. Measurements of the area of cardiac dulness at frequent intervals showed that it was gradually becoming less.

On 9th June it was noted that her cough had become much less severe, and that she was quite able to lie down at night. Pain was then quite absent from the cardiac region, and articular pains were insignificant. Præcardial dulness had also diminished. Auscultation on several days before this made out that the pericardial friction was becoming much less distinctly marked, and on this date it was difficult to say whether it was present at all. At the point of apex impulse, however, a very distinct and prolonged V.S. murmur was heard; this was conveyed well to the left of the apex, but towards the right it soon became replaced by the first sound.

The patient stated that palpitation had been easily set up ever since she had been a child.

On 19th June almost continuous improvement was noted, and the cardiac conditions were found to have changed

slightly. The V.S. murmur, formerly observed, was still very evident, but in addition reduplication of the second sound was heard down the sternum and at the pulmonic cartilage. No friction was heard; cough had almost gone, and pain was quite absent from the region of the heart.

On 23rd June, in addition to the V.S. murmur, an A.S. murmur with similar distribution was distinctly heard. The area of cardiac dulness had become almost normal in so far as the base was concerned, but was still extended somewhat to the left of the nipple vertical line, and to the right of the mid-sternum, the apex beating in the fifth interspace. Her pulse was still small, and rather rapid, being usually from 100 to 112 in the minute; her respirations were easy and full, and numbered from 16 to 20 per minute. For some days before this, and till her dismissal, she was allowed to get up out of bed daily for a short time, and digitalis was given. She left the hospital on 30th June, and she has remained able for her home duties since.

2. The second case was that of Jane A—, æt. 18, who was admitted to Ward VI of the Western Infirmary, on 12th August, 1882, suffering from a very severe attack of acute rheumatism of four weeks' standing, the pains being limited to the left hand during the first week of illness. The temperature was not very high at any time after admission, rather over 101° having been the highest recorded; the articular pains, however, were exceedingly severe. On admission, 20 grs. of salicin were given every hour, and as the pains subsided, the intervals between the doses were gradually prolonged, until at the end of about a week the remedy was stopped. At that time pain was still complained of in the left shoulder joint, but a blister was applied, and was soon followed by absolute cessation of pain. The temperatures became normal just before the salicin was stopped—*i. e.*, when the articular pains had almost disappeared. Swelling of several of the joints was observed on admission, but it also soon became subdued.

The cardiac condition is of more moment for our present purpose—*i. e.*, for comparison with the last case. Just after admission, careful percussion of the area of præcordial dulness discovered that this was much extended, the shape of this extension being such as to indicate considerable pericardial effusion; the base was prolonged in a pointed manner to the manubrium sterni, and the right margin was about an inch-and-a-half to the right of the mid-sternum.

Auscultation discovered no friction sound, but the heart's

sounds were found to be much muffled, especially in the region of the apex, which appeared to be rather higher than normally. Despite this indistinctness of the sounds, the radial pulse was found to be of good volume, and 104 in the minute. Respirations were 16 in the minute.

There was no pain in the cardiac region; no dyspnoea, no cough, no irregularity of the cardiac action, and no murmur of any kind could be detected.

Repeated examinations of this case found that the area of dulness gradually became more and more restricted, and that the sounds became more and more near the ear. No friction was heard at any time, unless a certain indeterminate alteration of the first sound heard at a point about $1\frac{1}{2}$ in. to the upper and inner side of the nipple should be looked on as such; this was heard on 19th August.

On 26th August, a very easily heard V.S. murmur was detected at the point of apex impulse, which was found now to be $4\frac{1}{2}$ in. to the left of the mid-sternum, and in the fifth intercostal space. This murmur was found to be replaced by the first sound at a short distance to the right of the apex beat, and it was also conveyed to the left. No murmur was heard at the base, but accentuation of the second sound was very marked at the pulmonic cartilage. The præcardial dulness had retracted considerably, and had lost in great measure its peculiar shape. The right border was still, however, to the right of the sternum.

This patient is still in the hospital, and no marked change has occurred in her condition, except that she improved gradually; to-day, however (18th September), she has complained of a certain amount of uneasiness, not amounting to positive pain, at the upper portion of the sternum.

She is now allowed to get up for a large part of every day, and she will shortly be dismissed.

FROM PROF. GEO. BUCHANAN'S WARDS.

STRANGULATED INGUINAL HERNIA. THREE OPERATIONS. RECOVERY. [Reported by Wm. Pattullo, M.B.]—This case seems worthy of note as it has now been operated on thrice for the above named affection. The following are the facts of the case.

The patient, William Beattie, a labourer, was first admitted to the Western Infirmary on 1st July, 1881, with a strangulated inguinal hernia of the right side. For some time previously he had been aware of the presence of a swelling in the right side of his scrotum, but could give no definite date for its first

appearance, further than that it had been present for several months. The swelling usually disappeared after a night's rest, but re-appeared with work carried on in the erect posture. Two days before admission, while engaged at work which necessitated a good deal of stooping, with separation of the legs, he was suddenly seized with severe pain in the abdomen, which was aggravated by pressure, and in a short time he began to vomit, first the food which he had swallowed some three hours previously, and then bilious looking material. He then went to stool, but could only pass a very small quantity of fæces by his rectum. It may be here mentioned that he had had a natural passage about twelve hours previously.

After the application of mustard poultices to the abdomen by the advice of a doctor, the patient's attention was for the first time drawn to the state of his scrotum, in which he discovered a large tumour, tense, elongated, and painful. This, the doctor attempted to reduce by inverting the patient and applying pressure to the swelling, but without any success. The man was then brought to Ward III of the Western Infirmary, when Professor Buchanan performed successfully the operation of herniotomy. Owing to the patient's restlessness the wound became putrid; but, notwithstanding, it progressed favourably until the ninth day of the operation, when sickness set in, accompanied by pains in the abdomen; these symptoms were for the time successfully combated by an enema, but during the afternoon of the following day they returned in so aggravated a degree that it was deemed necessary to send for Dr. Buchanan, but as he was from home, Dr. Patterson promptly attended. He opened up the wound and evacuated a quantity of inflammatory exudation. The large thickened sac of the hernia was then cut off, and its end, after being tied with catgut, was made to act as a plug to the external inguinal ring. The symptoms thereupon disappeared, and in a few days the temperatures were normal; the case going on to a successful issue. On the 23rd of August the wounds were thoroughly healed, and the patient was dismissed with a bandage and compress of lint applied.

Nothing more was heard of the man until the 17th of August, 1882, when he was re-admitted to Ward III with a right inguinal hernia, and suffering from hiccough, vomiting, and pain in the umbilical region of the abdomen. The taxis was attempted, but fruitlessly. Dr. Renton was then called in and performed herniotomy with strictly antiseptic precautions. The omentum was found to be peculiarly matted to the bowel. A half-grain morphia suppository was given, and opium ordered

every four hours in the form of a grain pill. Once or twice in the following week hiccough came on, but always disappeared of its own accord.

On the 25th a new feature was noted in the case—viz., the patient became highly delirious. The opium was first reduced to one grain every twelve hours and then entirely stopped, a little fish and bread being given as food. On the 27th the delirium had disappeared, and the man was well and comfortable. From this date things went on smoothly enough, the wound having completely healed on the 1st September, when the antiseptic dressings were removed.

On the same afternoon as the above case (17th August), another case of right inguinal hernia was admitted and successfully operated upon. The man is now well, although the bowel at the operation had a suspiciously gangrenous appearance. As it has no such interesting history as the case of Beattie, it is not necessary to give it any more extensive notice here.

The case of Beattie contains an important lesson, as it was only after the patient had drawn his physician's attention to the presence of a tumour in his scrotum that the latter suspected hernia as the cause of the abdominal symptoms. It is also a noteworthy fact that cases are sometimes treated for days as merely intestinal obstruction, until at the eleventh hour the all-important hernia is discovered, and the cases are then sent into hospital, most probably to die.

GLASGOW ROYAL INFIRMARY.

REPORTS UNDER THE SUPERVISION OF DR. WM. MUIR.

FROM DR. WATSON'S WARDS.

CASE OF FEMORAL ANEURISM—LIGATURE—RECOVERY. [Reported by Dr. Keay.]—Matthew Maclean, æt. 49, a stableman, was admitted into Ward 17, on 25th March, 1882, suffering from a tumour of the left thigh.

About the middle of December 1881, patient got a kick from a horse on the left thigh at about the middle of the anterior and inner surface. This caused some swelling and pain, which were relieved by fomentations, and he resumed work in a fortnight. In the beginning of March 1882, patient

noticed a swelling situated on the place where he had received the kick, and observed that it was gradually increasing in size, and that it pulsed. This swelling caused lameness, and at night patient suffered greatly from starting pains, which began in the tumour and extended downwards.

On admission, a tumour was found occupying the middle third of the anterior and inner surfaces of the left thigh. It was pulsatile, and on placing the hand on it an expansile heave was felt. It was fluctuant at points and cedematous. Pressure on the femoral artery above the tumour stopped the pulsation in the latter. On auscultation a distinct bruit was heard. The tumour, with the limb, measured in circumference 23 inches, and the swelling was 9 inches in length.

Dr. Watson having resolved to ligature the femoral artery, on 25th March the patient was put under the influence of ether. The limb was bandaged with elastic webbing as far up as the lower border of the swelling, and at this point an Esmarch's band was firmly applied round the limb. Another Esmarch's band was placed exactly at the upper border of the swelling. The tumour was thus completely isolated. Dr. Watson now made an incision into the tumour in the line of the artery, and turned out 40 oz. of blood clot. He found the aneurismal sac ruptured, very much thickened, and firmly adherent to the vein and to other adjacent structures. The artery was carefully separated above and below the aneurism, and firmly ligatured with cat-gut prepared according to Lister's method. The very large wound was now stitched up, a drainage tube inserted, and antiseptic dressing applied. When the patient had been placed in bed the limb was wrapped in cotton wool and elevated with pillows. The wound was dressed daily for some days, and it discharged very freely. About a week after the operation a little sloughing of fascia occurred from between the muscles. On 3rd May a small abscess was noticed in the left groin; this was opened. The large wound still continued to discharge a quantity of pus, and as it did not get away satisfactorily, owing to the position of the wound, Dr. Watson made a counter opening on the inner side of the thigh. This was done by working a long probe through the muscles from the large wound to the skin of the inner side of the thigh, and then cutting down on it. A drainage tube was then drawn through. Two days after this another counter opening was made in the same manner, higher up on the inside of the thigh, the first one not carrying away the discharge satisfactorily. On 14th May an abscess

was found on the inner side of the thigh between the counter openings ; it was opened.

From this date the wound continued to improve rapidly, the discharge daily becoming less, and the cavity filling up. On 5th June the drainage tubes were removed from the counter openings, and in a week they were healed. The cavity was quite filled up, being on a level with the surrounding skin ; in another fortnight it was skinned over. There was considerable swelling of the limb, which was in a great measure relieved by a bandage. Patient was allowed to go about on crutches, and in a week or two could use the limb pretty well.

M E D I C A L I T E M S .

UNDER THE DIRECTION OF
ALEX. NAPIER, M.D.

Convallaria Majalis (Lily of the Valley)—A new Cardiac Tonic.—Prof. Germain Sée publishes a very interesting and tolerably exhaustive account of this new drug, in the *Bulletin Général de Thérapeutique*, 30th July, 1882. From time immemorial the lily of the valley has been used by the natives of various countries as a remedy for dropsies. More recently it has been brought into notice in Russia by the writings of Troitzky and Bojojawlensky in *Wratsch*, Nos. 47 and 49, 1880.

Of various preparations tried, Prof. Sée found that a watery extract of the leaves was the most powerful ; an extract of the flowers was less active, and an extract of the whole plant least active of all. An infusion made from the flower was found totally inactive. The average dose given seems to have been half a gramme of the extract.

In his experiments on cold-blooded animals the author finds that, like digitalis, the upas antiar, erythrophleum, the inée or onaye, &c., this drug must be placed with those which arrest the heart in ventricular systole, and is thus antagonistic to muscarine and those which arrest it in diastole. In the higher animals it first retards the heart's action, raises the blood pressure, and renders respiration slower and deeper ; subsequently the action of the heart becomes irregular, respiration still deeper and much slower, and vomiting occurs ;

eventually the blood pressure rises still higher, the pulse becomes very feeble and so rapid as to be uncountable, and the respiratory movements still more ample; finally, the pressure falls, and respiration gradually becomes slower; the heart then ceases to act, and the blood pressure is reduced to zero, respiration stops, and death takes place.

A number of cases of heart affection of various kinds are here recorded, and in all of these the drug seems to have answered very well.

The author then analyses the physiological and pathological effects of the convallaria, and gives the following as his experience:—The drug is easily taken (especially in syrup of orange or in curaçoa) and is readily borne by the stomach; it stimulates appetite and digestion, and renders the stools more numerous without causing diarrhœa. As regards the heart, the most marked effect of the drug is in restoring rhythm. Palpitation also yields with the same rapidity and certainty. It renders the heart's action much slower, often causing the pulse to fall twenty beats per minute, this effect being the more evident in cases in which acceleration has been produced by nervous causes, and less evident when due to a mechanical cause (such as capillary dilatation). It slows the pulse, this being the less noticeable, however, the more nearly normal the pulse is in rapidity. It lessens sensations of throbbing, often felt in the head, neck, and ears in heart cases. This effect is specially marked in "Corrigan's disease" (aortic insufficiency). Intra-vascular pressure is increased, the drug acting as a tonic to the heart and vessels; and, unlike digitalis, it does not exhaust the contractile power of the central organ or of the arteries. In man the action of convallaria on the respiration is less marked than in the lower animals; nevertheless, inspiration becomes deeper, freer, and easier. In this respect its action resembles that of iodide of potassium, of so much value in asthma. "In the treatment of organic diseases of the heart with dyspnœa and dropsy, the prominent symptoms in cases of valvular lesion," says the author, "the combination of convallaria with iodine offers one of the most certain and safe of remedies." The diuretic action of convallaria is one of the most constant and useful of its effects. For instance, in one case, which may be taken as typical, the quantity of urine rose in two days from 500 to 3,000 grammes; on the fourth day it was 3,500 grammes; and during the following ten days, with no increase of dose, it oscillated between 2,200 and 2,500 grammes; the drug was then omitted for a day, and the urine at once fell to 1,000

grammes; in two days more the drug was resumed, and the quantity of urine rose to 3,500 grammes, and remained at this figure till the dyspnoea disappeared and the heart had recovered its energy. The urine remains normal in composition; at first it was thought that slight albuminuria was produced, as nitric acid caused a slight cloud in the urine, but this was found to be due to the presence of the resin of convallaria, which is separated by the kidneys. Although it does not modify the composition of the urine, however, it seems to act powerfully on the secreting organs; and in two cases of acute nephritis (one with hæmaturia) it had a hurtful action, increasing the quantity of blood present, though it at the same time augmented the total quantity of urine secreted. The drug has no action on the nervous system. All these statements regarding convallaria are confirmed by references to the cases recorded here, which include instances of mitral insufficiency, mitral obstruction, dilatation of the heart, hypertrophy, simple irregularity, chronic pericarditis, &c.

Prof. Sée then formulates his conclusions in the following sentences:—

1. *Convallaria majalis* (lily of the valley) is a cardiac remedy of the greatest importance.

2. In the form of aqueous extract of the whole plant, administered in doses of one gramme to a gramme and a half per day, its effects on the heart, vessels, and respiration are constant, and are invariably favourable, rendering the heart's action slower, restoring its rhythm, increasing its energy, raising arterial pressure, regulating vascular throbbing, causing inspiration to become deeper and easier, and lessening the sensation of the "besoin de respirer."

3. Its most constant, valuable, and powerful effect is its diuretic action.

4. Its therapeutic indications are:—

a. Palpitation, from exhaustion of the vagus or from paralysis.

b. Simple irregularity, with or without hypertrophy or valvular lesion.

c. Mitral contraction, especially if accompanied by deficiency of compensation in the contractile power of the left auricle and right ventricle.

d. Mitral insufficiency, especially when there is stasis of the pulmonary circulation, when consequently there is dyspnoea with passive congestion, with or without nervous affection of the respiration.

e. Corrigan's disease (aortic insufficiency). Here the drug

abolishes the peripheral arterial throbbing and improves respiration. When compensation by the left ventricle fails, convallaria is specially indicated, as it gives energy to the heart, which just at such a juncture tends to become weaker or even to suffer dilatation.

f. In dilatation, with or without hypertrophy, with or without fatty degeneration, with or without sclerosis of the muscular tissue.

g. Finally, in every variety of heart affection after localised or general dropsy has appeared.

h. In lesions marked simply by dyspnoea; but here its effect is less marked.

5. It has no contra-indication, being available in every heart affection. It, moreover, has no deleterious action on the cerebro-spinal system or digestive organs; and it does not remain long in the system, presenting thus no cumulative action.

6. Convallaria is in many respects superior to digitalis. It is sometimes necessary to suspend the use of the latter drug on account of vomiting, loss of appetite, general digestive disorder, cerebral excitement, &c.; and digitalis eventually exhausts the heart, augmenting the number of its contractions and enfeebling them, producing, in fact, a condition the opposite of that which is desired. Convallaria has not these drawbacks.

7. In the treatment of cardiac dyspnoea, convallaria is inferior to morphia or iodine. But morphia diminishes the secretion of urine. One of the best combinations, therefore, in cardiac asthma, is convallaria and iodide of potassium.

8. In the treatment of cardiac diseases, associated with dropsy, convallaria surpasses every other remedy.

Constitution of Convallaria Majalis.—M. Langlebert discusses in this article the constitution of the lily of the valley. The plant has been found to contain two glucosides, *convallamarin* and *convallarin*, an alkaloid named *majaline*, an acid named *majalic acid*, an essential oil, yellow colouring matter, and wax. The first mentioned glucoside is converted, under the action of dilute acids, into sugar and *convallamaretin*; the second, under similar circumstances, splitting into sugar and *convallaretin*. The activity of the plant is due to the convallamarin and the majalin. After making a number of experiments M. Langlebert found that the most powerful medicinal preparation was an aqueous extract prepared from the flowers and stalks, with a third of their weight of the roots and leaves added.—*Bull. Gén. de Thérap.* 30th July, 1882.

Convallamarin.—M. Tanret's principal object in this article is to advise the substitution of this body, the active principle of the *convallaria majalis*, for preparations (such as extracts, &c.) made from the plant itself, chiefly on the grounds that the percentage of active constituent in the plant is apt to vary in early or late seasons, that it is distributed irregularly in the various parts of the plant, and that extracts often undergo alteration during their evaporation. He makes much of the fact that it is not yet very clearly determined which part of the plant is the most active. Thus, the roots do not prove sufficiently effective. The extract of the flowers acts decidedly on animals, but less markedly on men. An infusion of the flowers proves inert. The leaves have no great activity, as their extract has to be given in doses three times as large as those of the extracts of other parts of the plant, while the best results were obtained, as stated by M. Langlebert, from an extract made with the flowers and stalks, with a third part of their weight of roots and of leaves added. He here describes a process by which the glucoside can be obtained without much trouble and in a state of purity. Plants collected early in August yielded two grammes of convallamarin per kilogramme of the fresh drug employed. The glucoside so obtained is soluble in water, ordinary alcohol, and methylic alcohol, but insoluble in ether, chloroform, and amylic alcohol. It is uncrystallisable, and is not reduced by Fehling's solution. With regard to the alkaloid *majaline* which M. Stanislas Martin states he has discovered in the flowers, M. Tanret has been unable to detect it in the leaves, stalks, or roots, so that it cannot count for much in the action of any part of the plant except the flowers.—*Bull. Gén. de Thérap.* 30th August, 1882.

Caffeine in Heart Affections.—Dr. H. Huchard has studied the effects of caffeine in heart diseases and presents the results of his investigations in an article in the *Bulletin Général de Thérapeutique*, 30th August, 1882. He thinks that caffeine is sometimes superior to digitalis, on account of the greater rapidity of its action, diuresis sometimes setting in within twelve hours after administration of the drug. This diuresis is not so profuse, however, as that induced by digitalis. Caffeine also has no deleterious action, being rapidly eliminated; accumulative or toxic action, therefore, and gastric intolerance, &c., need not be feared. Caffeine irritates the stomach only when the liver is involved, as in cirrhosis. While digitalis is hurtful, caffeine, on the other hand, is most valuable in fatty degeneration of the muscular fibre of the heart. M. Huchard

recognises four periods in heart diseases. (a.) The *eusystolic* period, when there is simply a *lesion* of the heart but no *disease*; a latent period, when hygienic treatment, not treatment by drugs, must be relied on. (b.) The *hypersystolic* period, marked by cardiac hypertrophy. If compensation is exaggerated, digitalis is here more indicated than caffeine. (c.) The *hyposystolic* period, characterised by failure of compensation, enfeeblement of the ventricular systole, the phenomena of asthenia or cardiac ataxia, and the symptoms usually described by authors as those of asystole. Here digitalis is still better than caffeine. (d.) The *asystolic* period. This is the cardioplegic stage of Gubler, marked by fatty degeneration of the cardiac muscle, and constant enfeeblement of the heart and vessels. It is in such cases that digitalis fails most often and that caffeine is of most service. That caffeine has a real action on the heart is proved by the fact that in diseases of the heart it causes a diminution of the amount of albumen in the urine, while it has no such action in non-cardiac cases; it acts as a diuretic also in cardiac diseases, but not in liver or kidney affections.

M. Huchard lays most stress on the dose which should be given. This is in most cases too small, he says. It should be given first in doses of 25 to 50 centigrammes, and these should be *rapidly* increased to 50 to 75 centigrammes, or even to 1, 2, or 3 grammes. He rarely, however, gave such a dose as the last mentioned. This quantity of caffeine (it is caffeine and not its salts he uses) should be given in three or four portions during the day, that the patient may be continuously under its influence.

M. Huchard has also used caffeine subcutaneously, in some cases associating it with digitalis; but his experience of this mode of using the drug is too limited to permit him to advance any conclusion in the matter. When it is necessary to act rapidly and certainly he suggests that the mode of preparation suggested by M. Tanret (see this *Journal*, April, 1882, p. 301) should be adopted.

On the Treatment of Epilepsy.—Kunze treated thirty-five patients suffering from epilepsy, with completely successful results in nine of them, by means of curare. The published cases show that complete recovery occurred in very severe cases of epilepsy, even when the disease had existed for years, and the intellectual faculties had become affected. Acting upon these results, Professor Edlefsen has investigated anew the effects of treatment by curare in certain grave cases of

epilepsy, since the effects of treatment, whether by the bromides or by atropia, are not so entirely satisfactory as to render all other methods superfluous. He employed the formula recommended by Kunze, filtering the solution before injecting it—Curare, 0·5 grammes; aq. dest. 5·0 grammes; acid hydrochlor. gtt. 1, digere per xxiv horas, dein filtra. Of this solution one-third is to be injected every five days; as a rule it neither causes much pain nor any noticeable reflex symptoms; in no case did it cause any toxic phenomena; still it is necessary to ascertain the trustworthiness of the preparation of curare before employing it. Two cases of hystero-epilepsy were not benefited by this treatment, whilst of thirteen cases of true epilepsy, the majority characterised as severe cases of old standing, six were not permanently improved, whilst three were completely, and up to the present, permanently cured. Three other cases, although not cured, were distinctly improved, the attacks being interrupted for several months. One case is still under observation, and promises to be successful. Prof. Kunze recommends that the treatment be given up if there are no signs of improvement after the fourth or fifth injection. (*Centrab. f. Klin. Med.*, 1881; *Med. Chir. Rundschau*, October, 1881.)—Dr. G. Ferraud sums up the recent results of treatment with bromide of potassium at the Salpêtrière (Paris). The cases of eighty-nine female patients are analysed as follows:—13 per cent very greatly benefited; 57 benefited; 18 slightly benefited; 12 not benefited. Minimum daily doses of 5 to 6 grammes for women and 6 to 8 for men are recommended. Legrand du Saule continues to give the salt on six days of the week for the first three months after the fits have ceased for a year, and afterwards on three successive days in each week. Arsenic is found useful in the acne produced by the bromide, and to avoid serious weakening of the memory coffee is ordered for all patients whose daily dose is more than 7 grammes.—(*Neurologisches Centralblatt*, January, 1882.)—*The Practitioner*. June, 1882.

The effect of Ligature of the Vertebral Arteries in certain Diseases of the Spinal Cord.—The proposal to ligature the vertebral arteries in certain nervous diseases is by no means an original one; but the great difficulty experienced in performing the operation has limited the number of cases recorded, and has hindered reliable deductions from being drawn. Dr. W. Alexander, of Liverpool, has performed the operation in a considerable number

of cases, and the results, which are important, are recorded by him in the *Liverpool Medico-Chirurgical Journal* for July 1882.

The patients operated on were afflicted with various nervous diseases, such as epilepsy, paralysis, locomotor ataxy, choreic twitchings, and paralysis in children. In one case, "a hopeless epileptic with a partially paralysed right arm and a deformed and immovable hand," the power of the hand returned in a few days; while another patient, affected with a peculiar stiffness of articulation and slowness of utterance, can now speak "with a volubility that would rival many a loquacious old woman."

In the case of a man, aged 34, affected with severe locomotor ataxy, the operation afforded great relief. On admission he could not stand alone; and while going along a six feet wide corridor, even with the aid of a stick, he staggered from wall to wall. On the 28th February the right vertebral artery was tied, the wound healing up within a fortnight. A month after, peculiar pains were felt in the thighs, beginning on the right side. On the 3rd June he could walk without a stick, and could stand with eyes shut and heels close together. A second patient, similarly affected, had both vessels tied, and was equally benefited within the same period. Dr. Alexander also found that two children, aged respectively nine and eleven years, who had severe twitchings of the legs, accompanied by inability to walk, derived great benefit from a similar treatment.

In the article alluded to, he gives the details of seven cases in all; owing to some neglect in nursing, one of these unfortunately died of hæmorrhage from the puncture of a small vein.

These seven cases, he holds, conclusively demonstrate that the received pathology of several diseases of the spinal cord is a mistaken one. He maintains that the sclerosis found in locomotor ataxy and allied diseases is primarily due to cedema, and that local congestion of the nerve centres is the cause at first of all the symptoms. By ligature of the vertebral arteries, the vessels that keep up the cedematous condition are occluded, and the absorbents are then able to drain the tissues, thereby allowing the nerve cells to recover from their sodden condition. His arguments on this subject are interesting, while the fact that ligature of these vessels has not been followed by any unfavourable results renders his communication a most valuable one to surgical science.

J. A. A.

Vol. XVIII.

A Hint in using Chrysophanic Acid.—Dr. G. H. Fox, while speaking very highly of chrysophanic acid in the treatment of psoriasis, finds that it is apt to produce severe dermatitis, and further to ruin the bed linen and underclothing which come in contact with it. He therefore recommends that a soft paste of the acid be made by rubbing it with a sufficient quantity of water. This is smeared upon the psoriatic patches, the scales of which have been previously removed by one or more hot baths, with soap friction. As soon as the paste has dried, which it does in one or two minutes, a layer of collodion should be allowed to flow over each patch and to harden into a protective coating. This will remain in place for several days, and when it falls or is washed off, the application of the powder and the collodion should be repeated. By this means, the chrysophanic acid in full strength is kept in contact with the affected skin, and prevented from exciting undue inflammation of surrounding parts or staining the clothes. A somewhat similar plan is to use gutta-percha tissue to retain a strong chrysophanic ointment in contact with psoriatic patches. The edges of this tissue will adhere tightly to the skin if a small camel's hair brush dipped in chloroform is passed rapidly beneath them.—*Philadelphia Medical News*, 18th March, 1882.

Treatment of Tonsillitis and Hypertrophy of the Tonsils by Bicarbonate of Soda.—Dr. Armangué reports in *Révue de Thérapeutique* seven cases of tonsillitis cured in less than twenty-four hours by the bicarbonate of soda. This method of treatment was introduced by Dr. Giné, Professor of Clinical Surgery, who employed bicarbonate of soda locally either by insufflation, or directly applied by the finger of the patient. The applications should be frequently repeated until the disease disappears. Dr. Giné relates dozens of cases in which a cure was accomplished in twenty-four hours, and has never seen this method fail to produce a good effect. The alleviation is almost always immediate, and is never long delayed. Its efficacy is especially marked in the prodromic period of tonsillitis, when it will invariably abort the disease. According to Dr. Giné, bicarbonate of soda does not diminish the predisposition to anginas, but only arrests their development. Excision of the tonsils is a useless operation in cases of hypertrophy of the tonsils, since the hypertrophy can be rapidly removed by frequent applications of the salt of soda.—(*L'Union Méd. du Canada*, December, 1881.)—[See *Practitioner*, xxvi, 218.] *The Practitioner*. June, 1882.

Wound of the Pregnant Uterus.—Drs. Goodell and Baer, of Philadelphia, have treated, and the latter relates the particulars of, the following unusual case. Five years ago, Mrs. Curley of Killaloe, Ireland, while pregnant with her sixth child and near the full time, fell on a sharp piece of wood, which contused the right side of the abdomen and made her very ill. Dr. Keoch, who attended her, and several medical men in Limerick, thought that the uterus had been ruptured and that the foetus had escaped into the cavity of the abdomen. In little more than a week she was quite well, and three months afterwards began to menstruate regularly. Her husband having died soon after the accident, Mrs. Curley went to America, where she maintained her five children for more than four years by manual labour. After being weakened by an attack of fever, she began to suffer from a yellow vaginal discharge and attacks of septicæmia. She obtained admission to the Philadelphia University Hospital, when a tumour about the size of a pregnant uterus at the sixth month was noticed in the hypogastric region, and palpation gave the impression of a bag of loose bones. The sound passed easily to six inches and the finger felt the cervix hard and closed, the uterus expanding immediately above and the bones recognised as such through its tissue. The os was dilated by tents and afterwards slit open, and with great difficulty the remains of the foetus were brought away, partly from the uterine cavity and partly from a kind of cyst in connection with the ruptured part of the organ. The patient suffered from pyæmic abscesses, one of which destroyed an eye, but she eventually recovered. It is believed that the foetus became encysted and lay without giving rise to any trouble till weakness, caused by the fever, resulted in decomposition and poisoning from absorption.—*Cincinnati Obstet. Gaz.* July, 1882.—W. L. R.

The Oleates and Oleo-Palmitates in Skin Diseases.—At the thirty-third annual session of the Medical Society of the State of Pennsylvania, Dr. J. V. Shoemaker, of Philadelphia, read a paper on the above subject, which is reported in full in the *Med. and Surg. Reporter*, 13th May, 1882. Dr. Shoemaker claims to have introduced, for the first time, the use of *chemically true* oleates, in contradistinction to those introduced by Mr. John Marshall in this country, which are here described as simply solutions and not true oleated compounds. Shoemaker's oleates are prepared by the double decomposition of sodium oleate with solutions of neutral salts, the former being prepared by saponification of oleic acid, with a solution of

sodium hydrate. A solution of the sodium oleate in eight parts of water is precipitated by a neutral salt, and the precipitate, washed and dried, is the oleate required. The oleates of mercury, atropia, quinia, and antimony, with their therapeutical action, were considered, and Dr. Shoemaker claimed to have first introduced the oleates of lead and bismuth in 1879 before the Society. The following oleates were also brought forward and shown for the first time.

1. *Oleate of Zinc*, made by decomposing a sodium oleate with a saturated solution of zinc sulphate, boiling out and drying the precipitate and reducing it to an impalpable powder. One part of this powder, melted with three of a fatty vehicle, makes a suitable ointment. Zinc oleate is a fine pearl-coloured powder, with a soft soapy feel, very much like powdered French chalk. The very best results are obtained from using it simply as a dusting powder, as in cases of excessive sweating of the feet, hands, or other parts, and in seborrhœa oleosa affecting the face; it is the most reliable remedy in eczema vesiculosum, in erythema about the groins and axillæ, and in herpes.

2. *Oleate of Copper*, obtained by double decomposition with a saturated solution of copper sulphate. The washed precipitate melted with either four or nine parts of cosmoline, fat, or lard, gives respectively a twenty or a ten per cent of oleate of copper ointment. Applied to the unbroken skin the oleate of copper rapidly penetrates deeply into the parts, particularly into the follicles, and will produce slight stimulation; applied to the broken skin it acts as a stimulant, and an insoluble albuminate is formed, which coats over the surface and supplies the place of the abraded skin. This oleate is specially useful in cases of ringworm, the ointment being lightly rubbed in night and morning; the parts should be well washed with soap and water to start with, but afterwards only every ten or twelve days. Epilation is not always necessary in this method of treatment. This ointment is also a useful application for indolent ulcers, warts, corns, and bunions.

3. *Oleate of Aluminium*, prepared by decomposing sodium oleate with aluminium sulphate; the washed precipitate mixed with equal parts of lard gives the ointment the author uses. This ointment is semi-solid, dark brown in colour, and has a most powerful astringent action. It very rapidly checks mucopurulent discharges in eczema. The author also recommends it as a dressing in foul ulcers, abscesses, sinuses, burns, and scalds; in these cases it coagulates albumen, constricts the vessels, and has an antiseptic action.

4. *Oleate of Iron*; the precipitate thrown down on adding ferrous sulphate to sodium oleate is converted, by boiling, into ferric oleate, and this may either be used pure or made into an ointment with an equal part of a fatty base. "When prepared in the above manner it occurs in a reddish-brown paste, inodorous, leaving a styptic taste, and readily soluble in fats, which hold in combination about 30 per cent of oxide of iron, forming a powerful and important therapeutic remedy." Used topically it is non-irritating; applied to an ulcerating surface it is mildly astringent. The author recommends it for its constitutional, as well as its local effects, advising that a small piece should be rubbed into the axillæ and inguinal regions two or three times a day; from its use in this way he reports "excellent constitutional (systemic) results" in those who had a weak pulse, a pale and flabby condition of skin, and deranged digestive organs, unable to bear the ordinary chalybeates. In scrofula also he has used it with marked effect.

5. *Oleate of Arsenic* is obtained by making arsenious chloride by the cautious saturation of hydrochloric acid with metallic arsenic; the solution thus obtained precipitates the oleate required from the sodium oleate. Twenty grains of this with one ounce of a fatty base form the author's ointment, which is soft, yellowish, having no action on the skin except when this is abraded, or in wounds, ulcerating and granulating surfaces, in which conditions it will excite active inflammation and destroy the tissues to some depth. It is of value in lupus, especially the ulcerating variety, and also in the tubercular variety after the parts have been thoroughly scraped. It may be applied also in ulcerating epithelioma, in warts, condylomata, nævi, corns, &c.; opium, belladonna, hyoscyamus, and arnica may be combined with it.

6. *Oleate of Silver* is prepared by precipitating sodium oleate with a saturated solution of silver nitrate, washing the precipitate with boiling water, drying it, and reducing it to fine powder. Of this an ointment may be made; strength, one drachm to the ounce. The salt is brownish-yellow in colour, the ointment dark brown, soft, and pliable. The simple oleate may be sprinkled over old chronic ulcers, old sores, and exuberant granulations, when it will set up a healthy condition in the parts. The ointment coats over an abraded surface by combining with the albumen, and causes contraction of the blood-vessels; it is valuable, in the strength 10-20 grains to the ounce, as an application in erysipelas, a stronger ointment being used at the margin to prevent extension of the disease. It has been used also in superficial lupus, boils, and carbuncles.

The oleates of magnesium, lithium, calcium, antimony, tin, and others, have been prepared by similar processes, but are at present of little therapeutic value.

The author claims for these oleates the following advantages: their deep penetration; their freedom from rancidity; their cleanliness of application; their great economy; and their antiseptic action.

Hyperpyrexia in Acute Rheumatism.—A Committee of the Clinical Society on this subject sum up their deliverances as follows:—1. That cases of hyperpyrexia in acute rheumatism appear to prevail at certain periods, having in the last decade been remarkably numerous in the years 1873-76, whereas latterly they appear to have been much less frequent. That such excess corresponds in a certain degree, but not in actual proportion, to a similar excessive prevalence in acute rheumatism generally. That the largest number of cases of hyperpyrexia arose in the spring and summer months, whereas rheumatism is relatively more common in the autumn and winter. 2. That whilst very little difference obtains between the two sexes in regard to proclivity to rheumatism, the proportion of males to females exhibiting hyperpyrexial manifestations is 1·8 to 1. But that as to age no such marked difference exists; nor as to occupation. 3. That the subjects of hyperpyrexia show no undue rheumatic tendency as regards family predisposition. 4. That cases of hyperpyrexia preponderate in first attacks of rheumatic fever. 5. That hyperpyrexia is not necessarily accompanied by any visceral complications, but may itself be fatal. The complications with which it is most frequently associated are pericarditis and pneumonia. 6. That the mortality of these cases is very considerable, hyperpyrexia being one of the chief causes of death in acute rheumatism. 7. That although present in a certain number of cases, and then of much value from their prodromal significance, neither the fact of the abrupt disappearance of articular affection, nor the similarly abrupt cessation of sweating, is an invariable antecedent of the hyperpyrexial outburst. 8. That the supervention of delirium or other symptom of nervous disturbance is very frequent, either antecedent to, or simultaneous with, the hyperpyrexia. 9. That there is considerable variability in the date of the occurrence and in the duration of the hyperpyrexial condition, ranging, according to our observations, at least from the fourth to the thirteenth day. 10. That when death results it has occurred mostly in the second and third weeks of the

rheumatic attack. 11. That the *post-mortem* examinations in a certain proportion elicited no distinct visceral lesions, and that when present the lesions are not necessarily extensive. 12. That the prompt and early application of cold to the surface is a most valuable mode of treatment of hyperpyrexia. That the chances of its efficacy are greater the earlier it is had recourse to. That the temperature cannot safely be allowed to rise above 105°. That, failing the most certain measure—viz., the cold bath—cold may be applied in various other ways—by the application of ice, by cold affusions, ice-bags, wet sheets, and iced injections.

The Committee did not think it advisable in the present report to enter into theoretical considerations, and, limiting the study of hyperpyrexia to the records of sixty-seven cases of acute rheumatism, deemed it premature to enter into physiological reasonings until the same conditions had been reviewed in other acute febrile diseases. The report is signed by Drs. R. Southey, H. Weber, W. M. Ord, F. Taylor, T. Barlow, and S. Coupland.—*The Practitioner*. August, 1882.

Chlorinated Oil in Scabies.—At the American Hospital for Skin Diseases, chlorinated oil, a yellowish oily fluid prepared by passing chlorine gas into olive oil, has been found to be a most decided parasiticide, more particularly in scabies. In this affection a piece of cotton is saturated with the chlorinated oil, and applied night and morning. The preparation is also used in other cutaneous diseases.—(*Medical Bulletin*, February, 1882.) *The Practitioner*. August, 1882.

Iodoform Subcutaneously in Tertiary Syphilis.—Dr. B. Thomann, of Graz, communicates to the *Centralblatt f. d. Med. Wiss.*, 2nd September, 1882, a few new cases of tertiary syphilis which he has treated in this way. He found that, in the secondary period, this mode of treatment had a good effect on the glandular swellings, more particularly when the injections were made in the neighbourhood of the affected glands; the effect on the eruptions and on the disorders of the mucous membranes was less marked and slower. In the tertiary period, however, the influence of the iodoform was very decided. The iodoform was suspended in glycerine (6-20), and half a gramme to a gramme and a half was the amount of iodoform given at each injection. Iodine can usually be detected in the urine in twenty-four hours.

The author concludes that:—

1. Iodoform in tertiary syphilis has a favourable influence on the healing process.

2. Large doses were borne well in his cases, and they materially shortened treatment.

3. For a long time after the injections have been suspended (in his case, even after forty-three days), iodine may be detected in the urine. The remedy is thus retained for some considerable time in the system.

4. None of the evil effects of iodoform were noticed, neither was there acne or coryza, or any of the unpleasant subjective sensations so often complained of in treatment by iodide of potassium.

The Action of the various Bromides Compared.—MM. Chéron and Fouques, having experimented at some length with the three well known bromides (of potassium, sodium, and ammonium), have reached the following conclusions:—These salts act, in virtue of their bromine, as moderators of the reflex centres. The bromide of potassium joins to its sedative action on the nervous centres a depressing action on the muscular system; it is thus a *neuro-muscular* agent. The bromide of sodium has an action like that of bromide of potassium on the nervous centres, but does not affect the muscular system; it is thus simply a *moderator of reflex action*. The bromide of ammonium has, in virtue of its bromine, an action on the nervous system similar to that of the other two, while it is also, in virtue of its ammonia, an excitant and diffusible; it is thus at once a *moderator of reflex action* and a *peripheral excitant*.

Consequently, when it is desired to influence the reflex powers and the muscular system, preference should be given to the bromide of potassium; if, however, we wish to act only on the reflex centres, the bromide of sodium is indicated; finally, if, leaving the muscular system out of consideration, it is desired to act on the nervous centres, to restrain the circulation and to effect a diminution in blood pressure, the bromide of ammonium will most probably give the required result.—*Journ. de Thérap.* 25th August, 1881.

Iodoform Internally in Syphilis.—Dr. Fr. Mracek reports unfavourably of iodoform, given internally, in syphilis; it is uncertain in its remedial action, while its other effects on the system at large are hurtful. Under all circumstances the iodide of potassium or sodium is to be much more highly recommended. In the early stages the drug was given to

remove the sleeplessness, and the pain in the head and limbs; in some cases it had certainly a soothing effect, but was not prompt in action so long as it was given in small doses (about half a gramme), and larger doses (1 to 1½ grammes), while they proved stupefying, left behind sundry unpleasant effects. These doses had no influence on the time of appearance of the eruptions. In the ordinary secondary manifestations of syphilis the action of the drug was equally unsatisfactory; even in cases in which it was well borne by the stomach the patients suffered in their general condition—they became pale, or even yellowish in complexion, and did not acquire the healthy appearance of those patients treated with mercurials.

In the gummatous stage iodoform gave rather better results, though in most of these tertiary cases, as in the secondary, it was badly borne by the patients. In one case of serpiginous gummatous ulceration, however, a cure was effected in fifty-five days, 34·5 grammes of iodoform having been given, the course also having been interrupted by two intervals, during which none of the drug was given.

The most common of the symptoms complained of in using iodoform were: digestive disturbances, drowsiness, giddiness, staggering, feeling as of drunkenness, palpitation, and acceleration of the heart's action, acne, cough, acute catarrh of the pharynx, bronchi, and conjunctivæ. It was also very noticeable that even when no very marked gastric disturbance was excited, patients treated with iodoform were apt to suffer from exhaustion, debility, emaciation, and often assumed a very unhealthy-looking appearance.—*Cbl. f. d. Med. Wiss.* 9th September, 1882. [Perhaps the best method of administering iodoform internally, is that recommended by Fonssagrives, who advises that the drug should be dissolved in cod-liver oil, to which a little essence of anise is added.]

The Physiological Action of Commercial Aconitines.

—The physiological action of different commercial aconitines forms the subject of a paper by Prof. P. C. Plugge, of Groningen (Netherlands), published in *Virchow's Archiv*, vol. lxxxvii, p. 410, from which we abstract the following:

During the experiments conducted by Prof. Plugge, in conjunction with Prof. Huisinga, to ascertain the fatal dose of certain aconitines submitted to them (in consequence of the poisoning case at Winschoten, see *New Remedies*, 1880, p. 293), Prof. Plugge thought he could recognise qualitative differences alongside of the quantitative effects; but the object of the investigation being mainly the discovery of the latter, and the

quantities of the materials at disposal being limited, no special attention could be paid to the former.

For the purpose of the present investigation, the following seven different kinds of aconitine were employed :—

1. *Nitrate of aconitine*, from Petit—in form of hard white crystals.

2. *Nitrate of aconitine*, from Morson—a yellowish-brown powder. This was a “pseudaconitine” [that is, the alkaloid extracted from the Himalaya aconite (*aconitum ferox*, Wallich).]

3. *Nitrate of aconitine*, from Hottot—a white powder.

4. *Nitrate of aconitine*, from Hopkins and Williams—a transparent gum-like mass of greenish-brown colour (perhaps a pseudaconitine?).

5. *Nitrate of aconitine*, from Merck—a yellowish light-brown powder.

6. *Sulphate of aconitine*—a grayish-white powder.

7. *Nitrate of aconitine*, from Trommsdorff—a grayish-white gum-like mass. (This was obtained from Friedländer, of Berlin, but was made by Trommsdorff.)

The above-named kinds of aconitine were used in aqueous, one-half or one per cent solution upon frogs; and while it was not the special object of the author to determine the fatal dose of each sample, yet his results justified him in classifying the samples, according to their comparative efficacy, in the succession given above. The most active is the French, of Petit, which is even stronger than Morson's, and the weakest is Trommsdorff's.

The results may be summed up as follows :—

1. Though the different kinds of aconitine exhibit a difference in the quantity of effect, no such difference could be detected in the quality of the same, all of them (even pseudaconitine) affecting the heart, respiration, motor nerves, &c., in precisely the same manner.

2. Aconitine and pseudaconitine paralyse the peripheric, intramuscular terminations of the motor nerves, resembling, in this respect, curare.

3. The nerve trunk is not paralysed by these alkaloids.

4. The sensory nerves are not at all, or, at most, very faintly, paralysed.

5. Where general paralysis apparently supervenes, this appears to be only due to the effect upon the peripheric nerve-ends.

6. The muscles retain their excitability, even after doses of aconitine which are five to ten times larger than those which paralysed the nerve-ends.

The following observations are also recorded as having been incidentally noticed:—

7. The pupil is frequently dilated, but not always.

8. Respiration soon becomes laborious, and ceases entirely after a few minutes. This phenomenon is quite constant.

9. A slimy secretion of the skin (in frogs) was frequently noticed. Its quantity was different, according to the kind of aconitine employed.

10. Yawning and retching occur almost always (both in *Rana esculenta* and in *Rana temporaria*.)

11. The blood of the poisoned animal generally has a dark-violet colour, so that the full veins appear black. Only Schuchart's and Trommsdorff's preparations produce a much less intense change of colour.

12. The heart generally stops in diastole, densely filled with dark violet-red blood; the ventricles beat more strongly than the auricles. The poisoned but still pulsating heart cannot be made motionless either by excitement of the pneumo-gastric nerve or by that of the sinus. Just after ceasing to beat, it may be set in motion again by galvanic excitement.—*New Remedies*. May, 1882.

Strength of various preparations of Aconitine.—In connection with the investigation of a case of poisoning by aconitine, Profs. Plugge and Huisinga examined some specimens of aconitine got from different sources, and came to the following conclusions:—

1. Petit's nitrate of aconitine has a poisonous action at least eight times stronger than that of Merck's, and one hundred and seventy times stronger than that of Friedländer's.

2. Merck's nitrate of aconitine has a poisonous action at least twenty to thirty times stronger than that of Friedländer's.

It also appears from the foregoing that the preparations known as "German aconitine" are not always of the same strength, there being a much greater difference between the two German preparations examined than between the more powerful of the two and the French preparation.

In conclusion, the author emphasises the necessity—seeing the great possibility of variation in preparations sent to the market—that physicians should exercise the greatest care in prescribing aconitine and its salts, as the dispensing of a different preparation from that intended by the prescriber may lead to the administration of a fatal dose, as in the case under investigation, where, instead of Friedländer's preparation, which was intended but not specified by the prescriber, that

of Petit, which was one hundred and seventy times stronger, was used. (*Archiv der Pharmacie*, Jany., 1882.) — *New Remedies*. May, 1882.

Preparation of Iodoform Ointments.—It would seem that in preparing iodoform ointments it is scarcely a safe proceeding to incorporate the materials by means of heat. This course was some time ago advised by a correspondent of the *Pharm. Zeitung*, on the grounds that as the vaseline dissolved part of the iodoform a softer ointment was obtained, having also a less disagreeable odour. In a subsequent number of the same Journal, however, another correspondent states that the application of an ointment prepared in that way was followed by symptoms of poisoning, such as are sometimes noticed after the ordinary external use of iodoform. The rapid absorption of the drug was probably due to the fact that part of it was dissolved in the vaseline. Iodoform ointments should therefore be prepared by simple mixing.—*New Remedies*. Sept., 1882. [It seems to be the case, also, and probably from a similar cause, that iodoform applied in the form of fine powder is more apt to cause disagreeable symptoms than that used in the ordinary form of fine crystalline scales.]

Treatment of Burns by Carbolic Paste.—Dr. Schrady's formula for a carbolic paste, of great value in the treatment of burns, is as follows:—

Gum Arabic, . . .	90 parts.	
Gum Tragacanth, . . .	30 „	
Watery solution of carbolic acid (1-60), . . .	500 „	
Treacle, . . .	60 „	Mix.

This paste is spread with a brush on the burnt part, and is renewed at frequent intervals.—*Le Progrès Méd.* April, 1882.

The Treatment of Intussusception.—In the September number of the *New York Medical Journal and Obstetrical Review*, Dr. W. R. Gillette, Physician to the Bellevue Hospital, relates a case of intussusception in a child nine months old, relieved by injections of water, the administration of chloroform by inhalation, and manipulation of the tumour felt through the abdominal wall. This, he states, is the third case of intussusception in infants which he has seen, and which he has been able to reduce by these means. He thinks that these cases, from the philosophy of their condition, and the necessary

measures for relief, are best managed in the way indicated. In two other instances, in which he saw and advised this treatment, reduction was utterly impossible under the other methods tried. The children in each of these cases were held while struggling, and the injections forced into them against all voluntary and involuntary efforts which they made. He deems the administration of chloroform almost absolutely necessary in these cases. The reason is not difficult to find, inasmuch as, while it gives us such perfect control of the patient, it also eliminates the element of muscular spasm. Moreover, massage is a powerful adjuvant to the hydrostatic pressure of water in these cases. In the first two cases the obstruction was not overcome until massage also was employed.

Septicæmia.—This disease is often not detected or is confounded with some other affection. This is due to the fact that the symptoms are not yet sufficiently understood. Wagner, in order to facilitate diagnosis, gives the following rules for recognising this formidable malady.

1. The condition is generally grave; there is fever, the onset of which is sudden, but rarely preceded by a rigor. Very often intense rheumatic pains are felt in the bones and articulations.

2. The sensation of illness is so great that the sufferer is compelled sooner or later to take to bed.

3. Intense fever, remittent and intermittent, always irregular; the exacerbations are always preceded by violent rigors.

4. Pulse very quick and generally dicrotic.

5. Greater frequency of the respiration than the high temperature would account for. In many cases grave affections of the lungs or pleuræ supervene.

6. Hypertrophy of the spleen. Rarely notable increase in the size of the liver.

7. Abdominal flatulence more or less marked, often accompanied by borborygmus, but the evacuations are rarely frequent.

8. Urine slightly albuminous, rarely contains blood.

9. Cutaneous exanthem, pustular or papular, upon a hæmorrhagic base.

10. Jaundice, oftener slight than intense.

11. Subjective and objective symptoms in the large articulations and in the long bones; very often rheumatic pains; rarely, on the contrary, tumefaction and redness of the articulations.

12. Sudden occurrence of grave cerebral phenomena, delirium, convulsions, coma.

13. Rapid advance of the malady.

14. Failure of all therapeutic agencies.—(*Giorn. Intern. delle Scienz. Med.*, No. 1.) *Lyon Médical*. July, 1882.—J. A. A.

Constipation in Children.—Dr. J. Lewis Smith, after writing at length of symptomatic and idiopathic constipation, gives the following advice:—

Dietetic Treatment.—If there is reason to suspect the presence of a mechanical obstacle which prevents normal defecation, a careful examination should be made, in order to discover, if possible, its nature and location. Often it is of such a nature that it cannot be removed, but its constipating effects may sometimes be, in a measure, obviated. It is important to obtain a daily alvine evacuation at a certain hour, and, by establishing the habit, the need will usually be experienced when that hour arrives each day. The nature of the diet is obviously important, as certain kinds of food are more laxative than others. Chicken tea, and to a certain extent, beef and mutton tea, are laxative, and, made plainly, are therefore useful in connection with other articles. The various kinds of berries and fruits have also a decidedly stimulating effect on the intestinal surface, and aid in removing constipation. Apples scraped or baked, or apple sauce, may be given to quite young children; and for those that are older, currants, cherries, and, among dried fruits, prunes and figs are laxative. Unfermented cider, in its season, which has been found so useful for adults, may also be given to children in moderate quantity, at least to those who have reached the age of two or three years. Glucose, given in considerable quantity, is laxative, but it has been found necessary to give the glucose preparation sparingly, or not at all, during the hot months, when infants are so prone to diarrhoea. This laxative effect, however, renders the glucose preparation of the shops very useful in the treatment of habitual constipation of infants, whether we employ the "maltose" or "granulated sugar of malt," or the preparations of Liebig's food. Of four constipated infants in the New York Infant Asylum, to whom Horlick's "sugar of malt" was given, three were relieved. Any of the glucose preparations may be given quite freely to a constipated infant, without impairing the digestive function or producing other ill effect, so long as no more than the normal evacuations are produced. Oatmeal is more laxative than most other kinds of amylaceous

food. Made into a gruel and strained, it may be given to the nursing infant, and unstrained, to those who are older. Bread or pudding from coarsely ground or unbolted flour or meal, and vegetables which contain saline and fibrous substances, have a stimulating and laxative effect on the surface of the intestines, and, therefore, are useful for constipated children of the age of two or three years and upwards. There can be no doubt that the free use of water in the ingesta materially aids in relieving costiveness. The simple expedient of allowing a liberal use of water, so useful in adult cases, doubtless also has a laxative effect on children, and its judicious uses is proper for them. Another important aid in overcoming habitual constipation is frequent kneading of the abdomen. Cold water bathing, the sudden application of a cloth wrung out of cold water to the abdomen, and in certain obstinate cases even the douche, may be used to stimulate the muscular coat of the intestines and the abdominal muscles to greater activity.

Therapeutic Measures.—For temporary constipation, and many cases that are habitual, enemata should be employed, since they promptly unload that portion of the intestines in which feculent matter is ordinarily retained, while they do not impair the appetite or produce the prostration which so often results from purgatives. For infants, a clyster of one or two ounces usually suffices, administered by means of a gutta-percha or glass syringe. Suppositories may sometimes be usefully employed in place of enemata; cocoa nut butter, molasses candy, or soap cut in shape of a pencil, may be used for this purpose. Those who have employed the galvanic current speak favourably of its use. The ordinary purgatives should not be given habitually to relieve a constipated habit. One or two doses for present relief, both in habitual or temporary constipation, are sometimes required, provided that an injection is for any reason not preferred. For this purpose, castor oil or a few grains of calomel mixed with syrup of rhubarb, the syrup of senna, or the compound liquorice powder of the German Pharm., may be administered with advantage. Belladonna has not seemed to me to have any decided purgative effect. On the other hand, nux vomica and its active principle, strychnia, are doubtless valuable adjuncts to purgative mixtures from their effect in increasing the action of muscular fibres. Physicians are not infrequently at a loss what to prescribe for the habitual constipation of nursing infants. I am in the habit of giving oil, sugar, and salts in the following formula, and usually with the desired laxative effect:—

- R. Ol. morrhuae, 2 parts.
 Aq. calcis.
 Syr. calcis lactophosph. aa. 1 part.

One quarter, one third, or one half teaspoonful may be given with each nursing, or a larger quantity, such as a teaspoonful or more, three times daily. Breast milk with this addition becomes more nearly like colostrum in its laxative properties, while it does not possess those properties of colostrum which disturb the digestive process. I know no agent of a medicinal nature which meets the indication so well as this for infantile constipation. But in my practice I have found it necessary, in not a few instances, to rely mainly on simple enemata for the relief of the constipated habit, till the infants reached the age when a mixed diet was proper.—(*American Journal of Obstetrics*). *The Practitioner*. March, 1882.

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ORIGINAL ARTICLES.

EXPERIMENT ON BRUTE ANIMALS.

INTRODUCTORY LECTURE AT THE GLASGOW VETERINARY
COLLEGE.

(Delivered Tuesday, 24th October, 1882.)

By JOHN CLELAND, M.D., F.R.S.,
Professor of Anatomy in the University of Glasgow.

GENTLEMEN,—It is a matter for gratulation that this great city is possessed of a Veterinary School so well equipped, so successful, and so rapidly rising in public estimation as this College is. I recall to mind its commencement and the difficulties with which the enterprise was surrounded, and wonder often at the indomitable perseverance with which Principal M'Call, having formed his resolution unaided and in spite of all discouragements, persisted steadily in his purpose till there grew in his hands, as we see to-day, this college with its numerous students, its excellent arrangements, and its increasing reputation. Every one who desires to see Glasgow occupy the position as a centre of medical research, which the extent of her population and the antiquity of her University alike render it proper that she should, must be glad that her Veterinary College prospers. For the art of medicine is one, whether applied to man or to the lower animals. The laws of life are the same in both, the methods by which those laws are to be investigated are the same for the veterinarian as for the physician, and the co-operation of the one with the other in research is of the

greatest importance. It is a common and a most justifiable thing to speak of medicine as a noble profession. As a general rule, men call it so, because its mission is to save life, which is a fine thing to do. Undoubtedly, the importance which attaches to human life invests with importance the profession which seeks to guard and prolong it. The veterinarian occupies himself with the same laws of life, and though his department does not include the care of life as exhibited in man, there are often human interests committed to him of very great importance. Not only is valuable property entrusted to his charge, the success of arrangements and expeditions of the gravest possible kind may be largely dependent on his skill. But I venture to think that the thing which most ennobles medicine is not the end which it has in view, but the means by which it is sought that the end should be accomplished. It is not the final cause of its existence, but the efficient cause of its success on which medical art must depend for its dignity. There are modes of practising medicine which are not noble, and there have been times when such modes have been dominant. There is nothing noble or praiseworthy in prescribing physic or performing manipulations thoughtlessly on the strength of traditional rule, for the mere reason that so you have been taught, or that so others have been in the habit of doing before you. But, with open and earnest eye to wait upon Nature, and learn from her what her doings are, how her operations are conducted, what those processes are, the sum of which we refer to under the name of life, and how they are modified by each change of circumstance:—to do this is to subject your whole habits of thought to such a discipline as cannot fail to have an ennobling effect; and the profession whose objects are sought by such means is rendered noble indeed. Here, then, is the common bond of all medical study, the link by which the veterinary branch is made one with that more advanced art which deals directly with the health of man. We want to see the veterinary art more and more thoroughly scientific. It is with that view, for example, that the Royal College of Veterinary Surgeons has instituted its fellowship degree; and the sciences selected as subjects of examination for that degree are among those which not only are required in the ordinary course of your studies, but form the basis of all medicine scientifically prosecuted.

You are called on to acquire some acquaintance with the constitution of dead matter as exhibited by chemistry, of

the laws and forms of life in its simple aspects as shown in plants, the structure of animals, and the mechanism and operations of all the organs of the body in health and disease—and this is the basis of all true medicine. It is the pursuit of those studies with intelligence and thoroughness which can alone give dignity to our art in any of its departments; because there is no other means of making it efficient for the objects it has in view, and because the honest pursuit of knowledge for its own sake has a salutary effect on the human mind which is not to be obtained by any other means whatever. Of a truth, the universe is God's, and none can touch his robe in faith without virtue going out from it. In the beginning of your studies, to you as to all students, the curriculum before you must seem rather a hard one; but let me conjure you, especially those of you who are just beginning, not to be contented with the very limited amount of information required for the passing of examinations. You will find it to be a good thing early to select one of the sciences brought under your notice, and resolve to master it as thoroughly as possible, and continue to cultivate it as an amusement and a pleasure throughout life. By that means you will not only gain great increase of happiness to yourselves, but you will have the proud satisfaction of working in the most effectual manner possible to improve the status of the veterinarian throughout the country. I do not say that you will gain in popularity; the road to that seems no better than the goal. Doubtless, popularity is a pleasant adornment to the prospect of the future, and refreshing as a cup of coffee coming after dessert (spell it either way); but it is a poor thing to depend on for solid support, and he is an unhappy mortal who allows the consideration of popularity to interfere one bit with his prosecution of the path which he knows he ought to follow.

The study of experimental physiology is at present in this country eminently unpopular. We cannot expect that it should have much sympathy from the general public. The general public cares nothing for any truth or science for its own sake, but only for the so-called practical benefits to be derived therefrom; while science refuses to smile on those who love her merely for her fortune. She will not reveal the treasures of her wealth except in response to the following of her for her own sake. One would think that this principle had been long sufficiently patent to be generally understood; and yet the Act passed for the

restriction of experiment on animals goes right in the teeth of it. On the injustice and folly of that Act I shall, with your permission, make a few remarks. I speak before an audience devoted to the care of animals, and the more experienced members of which know perfectly well that without experiment the information which you are able to turn to account for the prevention and cure of suffering in animals would not exist. I make that statement in broad terms; for though I am aware that certain licentiates in the healing art have striven to show that experiments on living animals are useless, I own that it surpasses my feeble powers to imagine how, without systematic and continued series of unfettered experiments we could have had any real knowledge of the functions of the nervous system, the action of the blood-vessels, the use of the liver, the spleen, the pancreas, or the kidney, or the place of sugar in the economy; how, in short, we could have had any of that body of useful information which constitutes modern physiology. No doubt phenomena exhibited by experiment may mislead by being misinterpreted; for in all progress there is required not only the presence of facts, but yet more, mind to translate them. But the only cure for such misinterpretations is further study by every means within our reach, indulging in contempt of none. Well, is it common sense that precisely those who are devoting themselves to the studies from which alone we can rationally hope to mitigate suffering in either the domestic animals or in man, should have a restriction and a bondage put on them such as are not applied to any other human being in Her Majesty's dominions?

Whatever may be the pain to the victims of physiological experiment (and that you are aware has been grossly exaggerated) those experiments are never performed but with the view of obtaining and spreading a more accurate and complete knowledge of the processes of life. But those who have legislated against experiment—the members of the two Houses of Parliament—are, the great majority of them, sporting men. I have no feeling against sport, in at least some of its forms. But it has been often pointed out, and it was perfectly well known to our legislators, that every sportsman who wounds without killing the animal whose destruction is his delight, performs an unsuccessful experiment, which may and often does inflict the greatest amount of suffering that the animal is capable of feeling. The special gratification of the gentle angler is to play with the sufferings of his fish, precisely as a cat plays with

the mouse which gets into its clutches. And if these, the more innocent forms of amusement of our legislators, not only involve that very kind of cruelty which their legislation professes to wish to put down, but require for their enjoyment an utter carelessness for the fate and feelings of their victims, what shall we say of the fox-hunt and coursing of hares? The sport in these cases consists not in the mere bodily pain inflicted, but in employing the whole force of the animal's intelligence for its torture, by prolonging the terror which precedes its slaughter. I am not here with the object of lecturing against sport—probably my audience includes many who enjoy it keenly in one form or other—but I want to know how, in the face of these facts, the legislators who passed the Act for the curbing of physiological experiment, can reasonably object to the charge of hypocrisy.

Some months ago, a writer in the *Cornhill Magazine* not altogether averse to experiment, bewailed that scientific men, defending what was defensible, should be so carried away by their feelings as to make that charge. But it is worth while, before coming to a conclusion on that subject, to take into consideration what hypocrisy really is, and the varieties which it presents. Before any man blazes up in holy indignation against hypocrisy being mentioned as an element entering into any of his doings and habits, let him ask himself if there is a single human being entirely free from it? Perhaps we shall not be wrong in surmising that precisely those who have the least hypocrisy about them will be the first to acknowledge the impossibility for any human being to be in all his words and actions entirely free from every taint of such a thing. Truly, it is alike bad form and grossly inexpedient to make point blank such a charge against any individual in argument, even as a climax to what may seem to the disputants a triumphant demonstration of such inconsistency as, once laid bare, stands out so gross that it cannot be easily supposed that any one could be otherwise than wilfully blind to it. Yet that is quite a different matter from admitting that people, because well bred and in many ways commendable, are free from hypocrisy. King David acknowledged that he was in his haste when he said "all men are liars;" but it is worthy of remark that so far from retracting the observation in what the hero of Dean Ramsay's anecdote called his "solemn leisure," he only thanked heaven devoutly for being delivered from their machinations. The royal poet's words were certainly more forcible than polite; and would probably have shocked

the religious world of the nineteenth century, could it have been present when they were uttered; but they are a concise and graphic avowal that he had met with deception on every hand, till he felt that he had no man to trust to. Doubtless, no healthily minded person would foster the cynical vein that finds expressions in such an ebullition, except under the smart of unmerited suffering; but while it is a truly horrible state of mind to believe that we are surrounded with people given over without exception to deliberate falsehood, a fairly critical eye cannot fail to detect, not only that every day do statements come under notice deviating from strict accuracy to an extent that might easily have been reduced by consideration on the part of the speakers, but also that the critic himself is subject to the same frailty of human nature which afflicts his neighbours. The frailty is simply this, that time goes hurrying on, carrying with it the exigences of conversation and the impulses to act on but half-considered judgments and prejudices, faster than any mind, however able and willing, can manage to supply corrected thoughts and words. Such states of matters become habitual, and our sensibilities become more blunted the more that thought is overbalanced by impulsiveness of word and deed.

Decidedly, such considerations make it all the more objectionable to call your neighbours bad names and accuse them of hypocrisy (or for that part brutality); but they also make it plain that while men of honest intent may easily be guilty of great inconsistency, they become, if the inconsistency be grave, and at the expense of others, and is clearly pointed out by the sufferers, justly liable to be thought hypocritical if they persevere in their injurious course; even although it be not expedient for those sufferers to press the charge.

Hypocrisy, like untruthfulness in other forms, is a thing varying in degree; and it varies in the amount of self-consciousness accompanying it. But its banefulness is not necessarily proportionate with its self-consciousness. On the contrary, it may be maintained with some show of reason that the greatest masters of the art make a point of as soon as possible deceiving themselves first, and thus bring the earnestness of a pseudo-truthfulness into their persuasion of others. But if such depths of subtilty there be—and surely no one can doubt it who has systematically sought to make acquaintance more salutary than pleasant with the springs of action within him—it yet becomes us to be slow to charge any individual man with carrying such an abyss in his heart, especially on the ground of the part he takes in echoing some cry of senseless

clamour. Nevertheless, a nation, a community, or a faction may be justly charged in the gross with hypocrisy, although the individuals who compose it may be far from fostering that vice or having it polluting their motives more than it does that of other honest men. For individuals lean one on another, each inclined to believe what others vouch for, when he has a good opinion of those who vouch, or is prejudiced in favour of the statement alleged; and with similar laziness we are all too liable to suppose that others have worked carefully out the conclusions which we accept at their hands, instead of dispassionately working them out for ourselves. Suppose that in this way we have accepted a gross and obvious inconsistency to the injury of some section of our fellows, the fault is venial while our ignorance continues; but as soon as it becomes present to our minds, we shall be demoralised if we have not the courage to shake ourselves free from the injustice to which in our inadvertence we have been lending aid. This being the case, it is the most natural thing in the world that those who suffer from an inconsistent clamour, or sympathise with others who do, should, when they have for a length of time made, to their own thinking, the vileness of the clamour abundantly evident, throw prudence overboard, and in the bitterness of their souls denounce as hypocritical the continued support of injurious and inconsistent allegations. It may not be prudent, it may be far from just—so curious are the inconsistencies which may live together within one honest mind—but it is natural, and it may even be noble.

The applicability of these remarks to the position of physiologists suffering from charges brought against them by the public is obvious. Two houses of parliament, consisting in great part of men who delight to scatter pellets at random through the bodies of partridges and hares, and get into enthusiastic animal spirits as they chase the fox with ferocious hounds, instead of putting him as quietly as possible out of pain—those two houses of parliament do most honestly allow themselves to be worked up by agitators to a pitch of indignation at the sufferings inflicted on animals in other ways with which they are unfamiliar, and which, therefore, appeal differently to their emotions. For the crack of the rifle is exhilarating to hear; the sharp edge of the surgeon's knife is dreadful even to think about. But while it is easy to believe that they imagine they have done honourably, it is impossible to clear them from inconsistency. It remains the fact that a large number of those who passed the Act which restrains and insults physiologists do yearly inflict on animals more suffering than is inflicted by

all the physiologists in the world. But, O most honourable men! *Vos Bruti!* who by sense of public duty are unwillingly impelled to stab your benefactors; when these things are pointed out, you cannot plead ignorance of your own inconsistency.

It is a pleasure, however, to have good reason to know that the highly wrought pictures which are often drawn of the sufferings of animals from experiment and otherwise are full of exaggerations depending on the ignorance or want of consideration of those who have drawn them. So far as those exaggerations depend on erroneous representation of what goes on in physiological laboratories, they have been so often and so fully exposed that those who are still misled by them can scarcely be held as other than willing dupes indulging a morbid relish for scandal. I shall only say that a large number of so-called vivisections are, so far as the sensations of the animals are concerned, the mere infliction of death in the most painless manner possible; and to this number belong a class of important experiments which I call to mind in connection with some remarks made by Cuvier which have been quoted against experiment. Cuvier stated (and doubtless regretted) that it was impossible to isolate the sets of wheels in an animal body and see each working by itself, because the different sets are so interdependent. One can easily understand his meanings and even admit a certain semblance of justification for that statement in his day; but how interested would the great zoologist have been to see, as can be managed now, numbers of single organs, a muscle, a kidney, or a liver, fed and kept alive after total separation from the body! For such an experiment the animal is sacrificed at once, only the blood and the organ to be studied being kept. But though any one for purposes other than scientific is at liberty to kill a dog, and a butcher might do so in the exercise of his calling, provided anyone could be got to eat the carcass, the physiologist must not kill it without first obtaining a license from a state official.

But the exaggerations of which we complain depend also in part on a mistaken estimate of the powers of animals to feel pain; and perhaps this is not so easily understood as may at first sight appear. I do not refer to the numerous convulsive and other reflex actions which might be mistaken by the uninitiated for symptoms of pain, but happen when consciousness is utterly destroyed—such phenomena as, occurring in human beings, lead the relations to ask if they are tokens of suffering, when the physician is able to reply that the patient is completely unconscious of everything. What I wish to show is

that the capability of feeling pain is, in even the higher domestic animals, far less than in man.

If we look at the matter critically we shall find that the evidence is distinctly to that effect. In the first place, the skin of the domestic animals is very different from that of man. It is well known that in operations on the human subject the skin is the structure whose injury gives most pain, and hence the surgeon's rule, which was always carefully attended to before the introduction of anæsthetics, to complete the skin cuts rapidly and at once; and that other rule, to make the ends of the wound abrupt, not sloping away in tails, which unnecessarily expose the sensitive substance of the integument. The mere division of the deep structures with a sharp instrument would appear to cause little or no pain, except in the case of nerves. When there is much pulling or violent tearing there may be great pain; but that muscles, vessels, and connective tissue may be handled and divided without causing any suffering comparable with what is occasioned by division of the skin, is a recognised fact.

When, however, you come to consider the integument of the domestic animals it is not difficult to make sure that you have a much less sensitive structure to deal with. Its microscopic as well as its obvious appearance would warrant you in expecting that it would be so; and while neither a horse, nor a dog, nor a rabbit is at all slow to make you distinctly understand when it is hurt, it becomes evident from the absence of signs of pain when skin wounds have to be made on them, that they suffer from them very little indeed. When, in various experiments which have greatly advanced physiological knowledge, the pneumogastric nerve of a rabbit is cut down on, supposing the animal not to have been chloroformed, it will be seen to suffer little inconvenience from the skin wound, and none from the search among the structures underneath; in fact, obviously much less annoyance than it would suffer from the administration of chloroform, which, strange as it may seem to some ladies, it abominates. But when the nerve is divided a sharp cry of agony at once tells, not only the moment of agony, but how far the animal had previously been from anything of the sort. Happily it ceases on the instant, and the rabbit shows no further discomposure.

So then, the rabbit is capable of feeling acute pain, but it is quite certain that skin wounds give it very little trouble. As to the pain which it does feel, though no physiologist would give any animal a moment's pain unneces-

sarily, it is well to note some circumstances which probably make it less than it seems. Even in man we see the greatest differences in different individuals as regards capacity for feeling pain. There can be no doubt that the actual sensation differs in different persons. That which will give acutest suffering to one man will to some others give little annoyance. Of course we must guard against estimating the pain by the outcry made, and we have, in great measure, to rely on the testimony of the persons, as we have no accurate means of measuring their sensations; but, speaking of the pain itself, apart from the power of bearing it, which ought also to be increased by proper education, I do not suppose that there can be any serious doubt that the pain occasioned by a given amount of lesion varies according to the fineness of the impressibility of the nervous system, and that civilisation and education, as well as certain alterations of nutrition in disease, do greatly enlarge the capacity for feeling pain.

If this be so, and there are surely few who doubt it, it seems evident that, as we descend the scale of being, even among mammals, the sensation of pain must become modified. At the same time, we must take care not to confuse position in the scale of intelligence with impressibility of the nervous system. One does not require to illustrate from man to find great variety of nervous refinement within the limits of a single species; you have it as well illustrated in horses and in dogs. I do not doubt that a high bred horse or a high bred dog has a greater capacity for pain than the horse or dog of low degree. All I say is, that the total sum of possible consciousness in an animal is a factor which cannot be left out in estimating the maximum intensity of sensation possible to it, and when we come down to animals of so feeble intelligence as rabbits, it is a factor which must be of considerable importance.

But the amount of intelligence has a far more important bearing than this on the character of the pain possible to an animal. The actual pain produced at the moment by a physical lesion constitutes but a small portion of the idea of pain as it presents itself to our minds. The accessories of anticipation, memory, and associations play an important part; and it is the effect of the images presented by these to the mind which gives rise to all the suffering which we term horror. Doubtless the more intelligent mammals have both memory and association of ideas largely developed. But as to anticipation, they have no chance of such a thing in a properly regulated laboratory; and my contention is that in

the brutes, anticipation, memory, and association have a so much less amount of mind than in man for their origin and operation, that the images which they produce must be both much fewer and much less wrought up into horrible phantoms; in fact, that we cannot well estimate how much of the complex machinery of pain, as we know it, the lower animals are altogether free from. At the same time, it is so perfectly evident that large capacity for pain is left to such animals as the horse and the dog that it may be safely affirmed that no one, at least no physiologist, would choose those animals for an experiment which could equally well be performed on a less highly organised animal. Perhaps, indeed, it would be pretty accurate to assume that the sympathy of physiologists for the lower animals stands in about the same ratio to that of sporting legislators, as the intelligence of a dog does to that of a rabbit. However, no one can doubt that the mental constitution of a rabbit is so limited, that it is quite incapable of the suffering of which a horse or a dog is capable.

I have confined my remarks hitherto to mammals, and am well aware that to many they may seem to be so speculative as to have little cogency, though, I think, they ought to have a not inconsiderable effect in moderating, to those who are animated by sincere affection for animals, the imaginative vision which has been so carefully fostered in them by professional agitators. But, if we turn to the cold blooded animals, the line of argument which I have pursued becomes enormously more important. It is a totally untenable position to suppose that a frog can possibly be capable of feeling anything nearly resembling what we know as pain. The consciousness of a frog is something so far removed from that of a human being, that it is impossible to imagine any condition of our minds to liken it to. That may be taken as certain from the imperfect development of its brain, as compared with the brains of higher animals. That difference of brain structure intimates an entirely different psychical constitution, in which pain, like every other impression, must differ enormously from all which we experience in ourselves.

The organisation of fishes is even lower; and we may allow our friends to fish in peace, with quiet consciences; that is to say, if they have not been persecuting their fellow-men. But the Act of 1876 extends to all vertebrata, and, therefore, no man who helped to pass it has any moral right to catch salmon with the rod, especially without a bottle of chloroform attached to his hook.

I am not an experimenter on animals, and have no personal

interest to serve in the remarks which I have made, but it is certainly the duty of those who are thus free, and who, from the nature of their pursuits, are most familiar with the magnitude of the debt which humanity owes to experiment—it is their duty to aid in opposing, so far as they can, the spirit of persecution against experimenters.

It is so pleasant to pose before the public as possessors of great goodness of heart, that it is no wonder that many who were engaged in the agitation which led to the Act of 1876, should be stimulated to carry the game further, as they still try to do. But it almost surpasses belief that a Lord Chief Justice of England should deliberately shut his eyes against all consideration of justice, and that the mitred leaders of the flock in the ways of righteousness should be his associates in a proposition so mad that it may well arouse alarm. Plainly, even the Act of 1876 ought not to be quietly acquiesced in by the nation as if it were right. Martyn's Act is amply sufficient for the repression of senseless experiments on warm blooded animals by tyros; and if there be among those devoted to science aught of a want of care and right feeling in any instance, which, as an exception to the general rule, there may be, legislation is not the appropriate means to prevent it. It is in the crude stages of scientific life that useless cruelties are likely to occur; and by favouring the free advance of science the nation will most effectually prevent their occurrence. It is by more complete scientific education within the profession that we ought to try to get rid of such experiments as those which Mr. Lawson Tait of Birmingham acknowledges having performed fifteen years ago, accompanying the acknowledgment with remarks which certainly show how useless and improper in his hands those vivisections were. I do not know, however, what some of his fellow-agitators will think of the following remarks by the same writer:—"The doctrine of evolution has affected religion as it has everything else, if indeed it is not establishing an altogether new form of faith, which is making an unrecognised, certainly an unmeasured, progress amongst us. Admitting that the so-called lower animals are part of ourselves, in being of one scheme and differing from us only in degree, no matter how they be considered, is to admit they have equal rights." Equal rights! One would like to know if it is proposed that the doors of stables, kennels, and hencoops are to be opened in vindication of their liberty. Are vegetarianism and cannibalism the alternatives set before us? And does this estimable surgeon consider it no more serious a matter to take the life of a

patient than to kill a sheep? He must be joking irreverently at his friends, and alluding to the "so-called lower animals" being "part" of lords and ladies after they have been eaten by them; for in another place he regrets that Quaker's blood was not injected into the veins of Archbishop Laud to make that prelate peaceful.

The Act of 1876 is simply an ungrateful singling out for police supervision of the one particular class of men to whom the age owes everything in the way of improved health and alleviation of the diseases of man and brute which distinguishes it from bygone times; and, passed by the men by whom it has been passed, however excellent their motives, it is a public scandal. The notorious habits of our lawmakers, whether good or bad in themselves, brand on the pages of the Statute Book which contain it, a comment which, however little we may wish to apply it to individuals, flares out to our shame before all nations as no other than that hated word hypocrisy.

How shall this blot be removed? There are only two means. One is to put an end to all sport practised at the expense of any vertebrate animal, and thus show that the nation which sympathises with hundreds of animals suffering at the hands of physiologists, sympathises also with the tens of thousands of animals which suffer to a greater degree at the hands of sportsmen; the other is to rescind the law which at present so hampers research. The more importance that is given to the limits of possible pain in brute vertebrates, and more particularly the less intelligent of them, the less is the need of an Act interfering with experiment; while, on the other hand, the less these limits are believed in, the graver does the case become against the sportsman. As to the right to inflict pain; if there be none, there can be no right to inflict death. If there be a right, it depends on the amount of the pain and the importance of the object. The amount of pain, calculated either by intensity or numbers, which is inflicted by the sportsmen, is much greater than that inflicted by the physiologists. The object of the physiologists and physicians is increase of knowledge and alleviation of suffering, both among men and brutes; the object of sportsmen is merely amusement, which they believe to be morally innocent; and I, for one, am not disposed in most instances to contradict them.

In the economy of the world pain has its place. But if it were in all circumstances wrong to inflict it, it could not have existed under the domination of an all-merciful God. The comparative importance of ends must be constantly kept in view; and surely they whose science, founded on experiment,

has spread its beneficent influence over man and beast, and gained for them all the alleviation of suffering which has been gained, may be held to endorse, more effectually than the President of the Anti-Vivisection Society, the sentiment toward the close of his illustrious relative's immortal poem, directed against the senseless slaughter of birds for mere amusement—a poem as yet apparently unfamiliar to the ears of the sentimental egotists who think it well that the poor of humanity should be the victims of unguided experiment, that doctors may learn skill before they are called in by them.

“Farewell, farewell ! but this I tell
To thee, thou wedding guest !
He prayeth well, who loveth well,
Both *man*, and bird, and beast.

“He prayeth best, who loveth best,
All things both great and small ;
For the dear God who loveth *us*,
He made and loveth all.”

ABSTRACT OF A CLINICAL LECTURE ON TWO CASES OF HEMIPLEGIA—THE ONE THE RESULT OF GRANULAR DEGENERATION OF THE KID- NEYS, THE OTHER OF SYPHILIS.

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(*Delivered 23rd June, 1882.*)

GENTLEMEN,—We have at present in the wards several cases of hemiplegia which, although presenting many features in common, are the results of very diverse pathological conditions: it is to two of these that I desire to direct your attention this morning.

The first of them is that of a man, Robert B., a spirit dealer, 43 years of age, who was admitted to bed 16 of Ward IX, on the 2nd of March. “His mother died at the age of 40 of paralysis; his father is alive, aged 64, and is paralysed on the left side; four of his brothers and sisters died in childhood, and two brothers and four sisters are alive and well.

“About six years ago he suffered from rheumatism in the

knees and toes, which prevented him from walking for about six weeks, and every winter since then he has had a recurrence of the attack, while last winter the wrists were involved as well. For some years, too—he cannot say how many—he thinks that he has passed more water than formerly, and has always required to rise at least once during the night to micturate.

“Five days before admission he went to bed feeling nothing specially wrong, and awoke about the usual time next morning complaining of severe pain in the right side of his head. On attempting to get out of bed he found that his left side was powerless; his wife noticed, too, that his speech was ‘thick’ and indistinct, and when he tried to drink the fluid ran out at the left corner of his mouth. Since this attack he has been confined to bed, and has been purged freely, but without relief either to the pain in the head or to the paralysis. Although not an abstainer he has always been a temperate man.”

On examining him we found that there was absolute paralysis of the left arm, and almost complete loss of power in the left leg, while the corresponding side of the face was quite decidedly, although partially, affected. The sensation—as regards touch, pain, and temperature—was lost in the arm and leg, but a slight sense of pain remained in the face, as he felt a pin stuck into the cheek. At first he was drowsy and inclined to sleep; after a while this passed off, but the pain in the head remained persistent. Latterly, a good deal of stiffness ensued in the arm and leg.

As regards the *seat of the lesion*, the situation of the paralysis, no less than the pain in the head, pointed to a lesion in the right side of the brain, while the loss of sensation led to the inference that the sensory as well as the motor tract was involved. Further, the “late rigidity” which ensued, made us suspect that degeneration, starting from the seat of the lesion, had descended into the left lateral column of the cord.

As regards the *nature of the lesion*, the age of the patient and the history of rheumatism were consistent with the view that the lesion might have resulted from rheumatism—embolic, in fact—but although, as we shall see presently, the heart was not sound, there was no evidence of valvular affection, nor were there any signs of emboli in the spleen, kidneys, or elsewhere. Further, the paralysis was left-sided, while in embolism it is the right which is usually involved, the left middle cerebral artery being more directly in the current of the circulation than the right. This tendency of paralysis from embolism to involve the right side was deeply impressed on my mind by an interesting case which was treated some

time ago in the same ward, and of which the following is a brief outline. This man, like the other, had left-sided hemiplegia; in his case also there was a well marked history of rheumatism, and an examination of the heart showed that the left ventricle was the seat of dilatation and hypertrophy, and that there was serious disease of the aortic valves. Further examination, too, led to the discovery of the usual symptoms of emboli of the spleen and kidney (moderate enlargement and tenderness of the spleen, albumen in the urine, &c.) These symptoms made me suspect that the hemiplegia was the result of embolism, the only circumstance against it being that the paralysis was left-sided. A *post-mortem* examination showed, however, that while there were abundant vegetations on the segments of the aortic valve, as well as emboli in the spleen and kidneys, the paralysis was due to hæmorrhage resulting from the rupture of a small aneurism in the brain.

In the case at present under review, as already stated, the heart was not healthy: the apex beat, though not much displaced, was too visible, diffused, and strongly heaving in character, while the second aortic sound was accentuated. These symptoms showed that there was hypertrophy of the left ventricle of the heart, and this gave us a clue to the nature of his illness. For whenever this condition is present it shows that there must be some impediment to the passage of blood through the arterial system. An examination of the superficial vessels showed that they pulsated very visibly, were very tortuous, and felt firm, rigid, and beaded—that in fact they were in a state of degeneration. This condition is of itself capable of giving rise to hypertrophy by throwing extra labour upon the heart; but a further examination led to the conclusion that the hypertrophy was not merely dependent upon the atheroma, but that both conditions were produced by one and the same cause—namely, chronic disease of the kidneys. Although there was no dropsy, the countenance was pallid, as we generally find in Bright's disease, and the urine was too abundant, and contained persistently a moderate amount of albumen. These symptoms pointed to granular degeneration of the kidneys.

Now, in what way is disease of the kidneys associated with hemiplegia? When these organs are the seat of granular degeneration there is defective elimination of urine, the poisonous elements of which irritate and cause contraction, with subsequent hypertrophy of the small arteries through the system (the arterioles). In order to overcome this obstruction, the

left ventricle hypertrophies. The blood is thus violently driven up to the brain, while the contracted arterioles offer an impediment to the onward passage of the blood: a great strain is thus put upon the intermediate brittle and atheromatous vessels, one of which gives way, and paralysis from hæmorrhage is the result. *

The sequel of this case is shortly as follows:—On the 15th of June, about 11 P.M., the patient suddenly became unconscious, with rapid and stertorous breathing—the latter soon became irregular, and presented somewhat of the character of the Cheyne-Stokes respiration. The pulse was 110, full, bounding, and irregular, and the right side of the body was at times the seat of convulsive tremors. The eyelids responded when the balls were touched, and the pupils were sensitive to light. The breathing became more and more laboured, and a considerable quantity of frothy matter was expelled from the mouth. These symptoms led to the inference that a second hæmorrhage had occurred, and on this occasion into the left side of the brain, seeing that the convulsive twitchings were observed upon the right side of the body.

He died at 3 A.M., on the morning following the seizure, and the *post-mortem* examination yielded, you will remember, the following results. I quote from Dr. Coats' report:—

"*External appearance.*—There is very marked pallor of the surface.

"*Chest.*—The left ventricle of the heart is considerably enlarged, causing elongation of the organ and bulging of the septum towards the right. The organ, as a whole, weighs $13\frac{1}{2}$ oz. The valves and orifices are normal. The muscular substance is at least normally firm. The lungs are absolutely non-adherent, and with the exception of slight engorgement posteriorly and slight emphysema, are normal.

The *kidneys* are both small, the left one weighing 3 oz. The capsule is somewhat adherent, so that portions of the kidney substance are removed along with it. The substance presents a uniform, finely granular appearance. On section the cortex is seen to be considerably reduced, so that in some places the bases of the pyramids are close to the surface, while cortex and pyramids are much less distinctly demarcated than normally.

"The *liver* is normal in appearance, and weighs $50\frac{1}{2}$ oz.

* For a somewhat similar case, see the author's volume on *Clinical Medicine*, p. 198.

"*Head.*—On removing the *dura mater* the surface of the hemispheres presents a general bulging, especially on the left side, where the convolutions feel distinctly on the stretch. The surface is also glazed. After removing the brain, nothing abnormal is visible at the base, except some cedema of the *pia mater*. On cutting into the left lateral ventricle it is found filled with blood, and its floor torn up by a very large clot, which lies immediately outside and partly involving the basal ganglia. The corona radiata is thus almost separated from the basal portions of the brain. The clot is perfectly fresh.

"On opening the right lateral ventricle a small opening is seen in its floor, outside the optic thalamus, and in the tail portion of the nucleus caudatus. On cutting through the floor of the ventricle a large cavity is discovered filled with a slightly orange coloured fluid. This cavity is in exactly the same situation as that on the other side, but is much smaller, and has a much smoother lining, and is covered with an orange coloured material, in which compound granular corpuscles and blood crystals are abundant. It is to be noted also that this cavity does not, like the other, tear up the floor of the lateral ventricle, except to a very limited extent. On cutting through the basal ganglia transversely on this side, it is found that anteriorly neither internal capsule nor nucleus lenticularis is involved in the hæmorrhage.

"Coming to the level of the optic thalamus, the nucleus lenticularis is largely destroyed, there being only portions of it left. Even here, however, the internal capsule is preserved, and is for the most part continued over the surface of the cyst, to the corona radiata.

"On tearing out the arteries which penetrate the anterior perforated space on the left side, two small sacculated miliary aneurisms of globular shape are found, situated just at the bifurcation of the arteries, projecting in the fork between the two branches."

Cases such as that to which we have just directed attention are very commonly met with, although their true nature—as far as their connection with kidney disease is concerned—is too often overlooked: but that to which we have now to allude, although by no means rare, is not so frequently encountered in practice.

This man, who is 29 years of age, a grinder by occupation, was admitted into bed 17 of ward IX on the 30th March, 1882, suffering also from left-sided hemiplegia. He informs us that

he was always a healthy man until within the last six months, during which time he has been troubled with severe headache limited to the left side, a symptom which latterly had been gradually but steadily on the increase. Four days before he came to us, he was seized quite suddenly with paralysis of the left arm and leg, and was unable to walk, and the day following it was observed that he could not converse, but only answered "Eh" to every question that was put to him. The day before admission, however, this symptom in great measure disappeared, although when he came into the Infirmary he had a dazed and stupid look, and answered questions in few words, or sometimes not at all, while the information which he vouchsafed was found afterwards to be quite erroneous. For a day or two also before admission the paralysis, which was quite complete at first, except as regards the side of the face which was only partially paralysed, became much less pronounced so that he could move the left arm a little, and the left leg with considerable freedom.

On the 8th of April, nine days after he came under observation, he became insensible, the loss of consciousness lasting for about a quarter of an hour, during which time there were convulsive movements of the arm and leg. On recovering consciousness it was found that the paralysis was greatly aggravated, he being unable to move either the arm or leg. The sensation, too, on the same side of the body was rather defective as regards touch, pain, and tenderness. Thus, when slightly pricked with a needle he thought he was touched with the hand, and when hot and cold sponges were applied he could discriminate the cold but not the heat.

As regards the nature of the lesion, it was pretty evident that it was altogether different from that in the last case, the patient being only nine and twenty years of age, and with no evidence of either atheromatous vessels or kidney disease; and a careful examination led to the suspicion that in all probability it was of a syphilitic nature. The hemicrania was markedly nocturnal in character, as we so often find in syphilitic cases, and the skin had a dirty, earthy, pallid appearance; the inguinal and arm glands were distinctly enlarged, and a large white scar about the size of a sixpence, with dark edges, was discovered about the root of the penis, which he informed us on inquiry was the result of a chancre he had five years ago. This view was further confirmed by the result of treatment, which consisted in the rubbing in of a drachm of strong mercurial ointment into some soft part of the skin every day. It was commenced on the 2nd of April, omitted by mistake

from the 10th to the 20th, and finally stopped on the 2nd of June.

And now we find that he is a very different man: the intelligence, which at first was so defective, is now perfect in every respect; the nocturnal hemicrania has long since disappeared; the paralysis of the arm is very slight, as he can move it freely in all directions although rather weakly; and the dynamometer, upon which at first the left hand made no impression, now registers 35 kilogrammes. The paralysis of the leg is likewise slight, although rather more pronounced than that of the arm, and he walks a little lame and rather stiffly. This last symptom, taken along with the existence of some tremor when the limb is manipulated, and exaggeration of the patellar tendon reflex (but not of the ankle clonus), renders it probable that, as in the last case, secondary sclerosis of the lateral column of the cord has to a certain extent occurred. As this lesion, although secondary to the lesion in the brain, is of a non-syphilitic character, it could not be expected to be benefited by anti-syphilitic treatment. But on the whole, considering the serious nature of the case, I think that we have reason to be gratified with the results of the treatment.

CASE OF IMPERFORATE ANUS.

By JOHN KEITH ROBERTSON, M.D., GREENOCK.

ON 4th December, 1868, I was called to see the infant son of Mrs. F——, born on the 2nd December, two days previous. The child had been cross, crying, and seemingly much pained. Castor oil had been given, but there had been no motion of the bowels. On examination I found there was no anal aperture.

At the situation of the anus there was a thinning of the skin, which was a little laxer than that of the surrounding perineum. The raphe was continued right through its centre, though there it was less marked, and partook of the general thinness of the skin of the part. In the circumstances I sought the consultation and assistance of Dr. Marshall, and the same day we met at the little patient's house for that purpose.

We were in hopes that the bowel might not be far off,

as the appearances encouraged us thereto; and so I cut down in the middle line fully an inch deep, but found no indication of the gut. I then plunged in a trocar, in the centre of the bottom of the incision, in the direction I thought most likely to meet the bowel. On withdrawing it there was no evidence or trace of reaching it. The case was now very grave like; but the results of failure could not be worse than the results of attempt. I again, with Dr. Marshall's encouragement, thrust the trocar into the old track, and this time in to the hilt. We were most agreeably affected to find meconium escaping through the retained canula.

What was now to be done further? Could we catch hold of the punctured gut, drag it down, and pin it to the external skin of our newly formed and normally situated artificial anus?

Such is the small extent of surface in infants, and such, in this case, was the depth of the incision into the small pelvis, that we could not see, much less catch hold of, the perforated bowel. That procedure, even if it could have been accomplished, would have been most probably useless and hurtful, owing to the necessarily great extent of stretching and likely consequent congestion and inflammation of the parts so interfered with. There was no alternative. The newly opened region must submit its virgin track to the severe test of the disposal of sewage *in transitu*. A catheter, introduced occasionally, served to keep the canal open, and protect, while present, the parietes.

In a few days a new feature was developed—viz, that the fæces escaped by the urethra, micturition being often, though not invariably, accompanied by urethral defecation.

The little boy kept always of a sallow, yellow tinge, jaundiced in fact, and not quite so active or expressive as a healthy child. But, with these exceptions, he was in fair health, and growing thrivingly.

Defecation from both passages occurred till his death, which took place 29th January, 1870, from croup, within twenty-four hours of its onset.

He thus died from the effects of a disease unconnected with defective formation of the bowel.

It was a happy result of the procedure that no infiltration or inflammation occurred in the tract of the improvised bowel. Though no mucous membrane protected the surrounding parts there, during the thirteen months the little patient lived, the opening through the cellular and muscular tissues proved a trustworthy bowel canal for the transit of the alvine

evacuations. It would have been interesting to have examined, *post-mortem*, whether, and how far, the artificial canal had assumed a mucous-like structure. It would also have been interesting and instructive to have known the internal anatomical condition and structure of the parts and by what passages the fæces were evacuated through the urethra. But no *post-mortem* was allowed.

In the absence of experimental proof, it may even be matter of speculation whether, in the event of no operative interference having been resorted to, the urethral passage would have become enlarged, and to what extent it would have proved sufficient for the purpose of a vicarious anus. Of course, our prompt immediate line of action leaves no doubt of our scepticism of such a likelihood, and of our sense of the impropriety of utilising such a speculation, where its outcome might be "expectation" in treatment.

In text books, diseases of a like nature to this case are properly divided into divisions corresponding to the nature and extent of the obstruction met with. There may be merely "narrowing and partial closing of the anus;" or it may be "complete closure of the anus" by a membranous septum, either at the anal aperture, or $\frac{1}{2}$ to 1 inch higher up; or there may be "complete absence of anus," the rectum ending in a *cul-de-sac*, $\frac{1}{2}$ to 1 inch higher up; or "closure of anus with absence of rectum."

It is apparent that this last is the true nature and description of our case. For the unhappy condition of affairs three operations are presented as remedial measures:—1st. Iliac incision, or Little's operation. 2nd. Lumbar incision, or Amussat's operation. 3rd. Perineal incision. As for all such cases, except those complicated with absence of rectum, the perineal is the admittedly practicable operation, and as we cannot foretell to what extent the deficiency may exist, we must explore—we commence with perineal section. That failing, the operation named after Amussat might be the preferable one.

As the following case so much resembles mine in the probable internal condition and situation of parts, as unfolded in *post-mortem* examination, I subjoin it. It is given by Dr. John Aikman, Guernsey, as a case of congenital imperforate anus.

The child was born 30th December, 1871, evening. Dr. Carey was called to see it on the afternoon of the 12th. There were no symptoms of distress. The sulcus between the buttocks existed, and there was a slight depression in the

normal situation of the anus, at the bottom of which the skin was more pink than around. No tumour could be felt on deep pressure in that situation; but an incision, nearly an inch deep, was made by way of exploration. No satisfaction having been obtained, further interference was deferred. The symptoms gradually increased, until the morning of the 15th, when the child died. A *post-mortem* was made same afternoon. Abdomen found tympanitic; bladder had no urine, and was higher in the abdomen than usual, even at time of birth. Immediately below the splenic flexure, the large intestine inclined towards the line of the bodies of the vertebræ, and soon crossed completely to the right side. At the fundus of the bladder a sudden flexure took place to the left, and the bowel ended by being inserted into the base of the bladder, exactly between, and a little in advance of the ureters. The part of the bowel between the last flexure (sigmoid) and its termination was much distended with meconium, and pressed upon each ureter. The ureters above this point were distended to nearly the size of the great bowel, and the pelvis of the kidney to a nearly corresponding extent. The insertion of the bowel was a fibrous mass, and there was no communication whatsoever with the bladder.

We find here that the conditions of parts were probably very similar, as to anatomical arrangements, to those in our case; though the result of operative interference was not so happy. Of course the bowel did not end in a fibrous mass in our case, but had the bowel canal extending through it, communicating with the bladder, assuming, as we do, the same anatomical relations.

Dr. Aikman remarks that, "in this case the perineal operation was impracticable because of the distance of the bowel from the perineum;" that, "this is another exemplification of the warning, not to be deluded into believing that because there is a semblance of an anus, the bowel is not far off;" that, "the operation in the loin (if it ever be justifiable) was forbidden by the displacement of the bowel, and the position of the distended ureter;" and that, "it is also interesting, anatomically, as showing a partial permanence of the cloaca, normal to one period of foetal life."

With these remarks we may well concur, save only that one concerning the impracticability of perineal operations because of the great distance of the bowel from the anus. Our case might lead us to think differently, or, at least, that greater chance of success is possible than some may suppose.

I was in hopes that the artificial rectum and anus might

not only prove quite serviceable for their purpose, but that the communication, or communications with the bladder, or ureters, or urethra might have been gradually circumscribed and abolished, had the little patient lived; but unfortunately that can now be only matter of speculation.

The success of the operation, though it might be called "a lucky hit in the dark," with the risk of doing as much harm as good, would encourage one to put in a trocar deeply, with a hope, at least, that good might result.

It will probably still remain a matter of doubt whether Amussat's operation be not equally scientific and proper.

But a great French surgeon has adopted another mode of procedure in such cases, which theoretically one feels inclined to pursue in any recurring case. Good practical remarks, and ingenuity of practice, conveyed in brilliant French, must unavoidably be marred in translation. It is entitled—*Imperforation de l'Anus: Procédé Destiné à Simplifier l'Operation.* Hôpital Lariboisière. (Service de M. Verneuil.) "If there is an operation which is urgent, and which may at any moment present itself to the practitioner, it is surely that which a case of imperforate anus necessitates; so it is always necessary to hold one's self ready to practise it. As it is one of the most delicate operations of surgery, it is impossible to be directed by too precise or methodical scientific knowledge. It is too frequently the case that the practitioner has forgotten to inquire whether the baby has defecated or micturated; and when the deformity has been discovered some precious time has been lost. That happened lately in a town to which M. Verneuil was called only on the fourth day after birth. In discoursing shortly on the history of this question, M. Verneuil insists on the fact that little worth attached to the operation till modern scientific knowledge made it precisely methodical. As for operating more or less at hazard, in making an incision into the perinæum, and plunging at a venture a trocar in different directions for the happy chance of success, we must almost always have disastrous results—penetrating wounds of all sorts, oblique crossings, infiltrations, &c. At the present day, thanks particularly to the labours of Dieffenbach, Amussat, and Gogrand, the operation is capable of being very well regulated. In practising the operation he counsels some precautions. When one finds such cases, where there is no rectal prominence in absence of the lower rectum, it is necessary to abstain from any non-methodical tentative explorations. Lay the child in a suitable place, with sufficient light, on its knees and belly, with the

legs separated. Expose well the perineal region where the median raphe will be easily seen, and use the point of the coccyx as a guide. Make an incision from that point toward the vulva or the root of the testicles. It is important to keep strictly in the median line, in which we will always find (as embryology teaches us) in absence of the rectum, a fibrous strand which leads to the membranous part or the inferior third of the vagina; it is a precious guide that we must not neglect. When the incisions, layer by layer, are carried deep enough, separate the parts cut open, and pour upon them a jet of cold water, and we will see at the bottom of the wound a black spot not larger than a pin's head. If we see such it is the intestine, and we have achieved our end. If it is movable we must draw it towards the skin, and if we are able to do so without opening the bowel it is a very happy circumstance. More generally we can only reach the end of the rectum with a tenaculum and incise it. The meconium escapes, and this proves very troublesome, as it sometimes takes a long time to flow out; but we must exercise patience, observe whether it comes in an easy manner, and wait till it is finished, in order to complete the operation. That over, stitch the extremity of the rectum to the skin. This is the only way to obtain a roomy passage, and avoid the chances of infiltration and retraction. But it may be that a deep dissection is made into the perinæum without finding the bowel. The matter is then more grave, for it is now necessary to dissect still higher up the little pelvis. To do so is difficult, and the points of guidance are less precise. Often the rectum is absent for a considerable extent. Not to get confused in the search through the pelvis it is necessary to remember the surroundings. The curve of the sacrum in particular is a precise guide. Procedure here is unfortunately very difficult, and M. Verneuil has thought to modify the difficulty by a little preliminary operation, which is without danger, and which he has practised on four occasions. It consists in cutting off the point of the coccyx by giving a blow with a chisel on each side. A great facility of action thereby immediately ensues. One is able to cut off a more or less considerable part of the coccyx. With one little patient on whom he operated he cut off as much as one centimetre, though with another he cut off six millimetres only. (Centimetre being 0.39 inches, 6 millimetres 0.22 inches.) This little proceeding is without any immediate inconvenience, and does not expose to any particular accident. By this means we may treat very difficult cases where we could not succeed by the ordinary method. It is a precious

operative recourse, when otherwise one would be reduced to the necessity of practising the operation for artificial anus in the lumbar region."

Having practised in this wise four times, M. Verneuil can testify to how it simplifies the operation. The anus appears to comport itself as after any other of these operations. It is right to attend the little patient closely for ten days. Unhappily the cases of cure after these operations are rare. M. Verneuil's three first cases are dead. The fourth child was premature, and lost a small quantity of blood, which, however, was serious for a newly born infant, and more so for a premature birth. In a footnote the editor states that the last mentioned little patient is, after fifteen days, so much better as to be fast approaching a cure.

The editor continues, "We will finish with a little practical remark upon the little sufferers who survive the operation. The thing to be feared further on is a retraction of the anus. Among the means of dilatation M. Verneuil values highly that little domestic proceeding which most practitioners have long practised—viz., the introduction of the little finger of the mother many times daily. Of the twelve patients operated on, two have been cured; one has survived a long time on whom this little proceeding has completely succeeded."

From some points of view, especially from such as M. Verneuil has indicated in the foregoing remarks, our operation appears clumsy, hazardous, and unscientific. Yet it was not devoid of success, and shows that a rough operative interference is occasionally wonderfully useful.

It also shows that while to bring down and attach the bowel to the skin is right and proper when feasible, yet, when not practicable, as in our case, it is not necessarily followed by infiltration, and the various phases and effects of inflammation and its results.

I attended the little patient for three months after the operation. I had introduced catheters to open up and keep open the bowel passage, and had even procured a graduated series of rectal bougies, in sanguine anticipations of future years, and their requisites; but his parents removed to Glasgow with him, and I saw him no more till summoned to his fatal illness on their return to this town.

A MONTH'S DISPENSARY WORK IN GLASGOW ROYAL INFIRMARY.

By JAMES A. ADAMS, M.D., &c.,
Demonstrator of Anatomy, Glasgow University; Extra Dispensary Surgeon,
Glasgow Royal Infirmary, &c., &c.

THE dispensary work of a large hospital is not much in favour with its medical officers as a rule. It does not admit of accurately noting the final results, or of comparing methods of treatment; neither does it permit of tracing connectedly the progressive and allied phenomena of disease. It disappoints the natural wish of the medical man that he should have a definite knowledge of the issue of his cases, and with this, a store of clear precedents on which to base his judgment in after practice. Many patients visit the dispensary only once, and there is consequent uncertainty as to whether they have derived benefit or not. When themselves satisfied that they are cured comparatively few are at the pains to return and report themselves, and many are unquestionably cured of whom no more may be heard unless by merest chance. In short, dispensary practice is, in the words of some of its *attachés*, a "hashy" practice, and to some it is all the more distasteful because of the crowd of cases that crave notice and the little time that can be given for their consideration. And this last condition weighs especially heavy in the minds of those who, like William the Doubter, prefer to sleep upon a question before coming to a decision, or who carry into medicine the principle of action attributed to our greatest living statesman, of discussing every problem under the view that there are three courses open to be followed.

Notwithstanding these drawbacks, I take much interest in dispensary practice, believing that it is valuable exercise for an earnest medical man and excellent training for the medical student. The large number of cases requiring quick decision compels the surgeon to bring himself to a state of preparedness in the principles which are to guide his practice, while the variety in forms of disease that claim from him a discriminating review, because modified by sex, age, and general physical condition, demands a corresponding provision of resources in medicaments, appliances, and methods adapted to the habits and humble circumstances of the sufferers.

During the summer months of 1882 I had a fair share of dispensary work, and although the conditions were not favourable for taking full notes I have nevertheless preserved such a record as should present a tolerably fair notion of the kinds of *morbidity* that affect the class that comes under the observation of the dispensary surgeon. A statistical list of a month's cases—say September, which is the last month I was on duty—will, I believe, be not uninteresting, while a few illustrative notes will show that the practice may be made highly instructive.

The dispensary is open for surgical aid every day excepting Sunday, and two surgeons are on duty at the same time, but in separate receiving rooms. The hour of attendance is from 2 o'clock P.M., and the time occupied varies from one to two hours. The practice is open to the observation of medical students who are following out their hospital instruction, and of these there is usually a number who gladly avail themselves of the opportunity of gaining practical skill in bandaging and dressing and otherwise of assisting the surgeons in duties that—but for their aid—would often become unduly laborious.

During September the total attendance of patients at my room was 669, giving a daily average—excluding the Sundays—of above 26 individuals. Of these the larger proportion consisted of old cases continued from the practice of my predecessor on duty, and the actual number of new cases was 215, giving a daily average of from 8 to 9. Restricting consideration to the new cases, the relative proportions of the sexes were of males 128, and of females 87—total 215.

Of these 215 cases there were 73 the result of direct injury, and 142 cases were idiopathic, or arising from constitutional or other causes not the result of immediate injury.

The cases of injury seem small in comparison with the total cases of disease, considering that the Royal Infirmary is in the centre or the immediate neighbourhood of numerous public works employing a large population residing in the vicinity, and for all reasons most liable to accidents, and most likely to avail themselves of the aid which a dispensary so easily accessible freely affords. But as a somewhat analogous fact it has been frequently observed that in a military hospital, even during a campaign, there is a similar disproportion between surgical ailments purely resulting from direct injury, and those other forms of surgical ailments that arise from causes incidental to all classes of individuals.

As September is one of the vacation months, there were only six students in attendance at my reception room, and to these I delegated the ordinary duties of dresser, placing each student in charge of a certain number of the new cases and holding him as specially responsible for the due attendance on his own cases to the end, subject in every instance to my directions and immediate supervision. The new cases for each day were the first to be called in from the waiting room, and cases requiring operations or manipulations of a special or difficult character were detained till the end of the reception, so that all the students might observe the proceedings and also render necessary assistance. In numerous cases I explained in few words to the students the leading features of the case, the grounds on which I based my diagnosis, and the *rationale* of the treatment to be pursued. I encouraged the students to ask questions as to the why and wherefore of the particular modes of treatment, where the principle was not sufficiently obvious or otherwise not apprehended by all, so that they might not fall into the routine practice of an empiric or mere nurse who directs or applies a poultice, but is unable to explain the action of a poultice. In most of the cases I applied the first dressings, and in all cases I saw that my directions were properly carried out. In this way a cordial and pleasant relationship was soon established between myself and the students, with the result that they carried out their share of the work with creditable zeal and with a personal interest that ensured for the patients an amount of attention and substantial benefit that would not, I believe, be otherwise bestowed.

Adopting a rough but sufficiently convenient classification, the cases were, of

Injuries from External Violence—

Contusions,	...	...	...	...	17
Sprains,	...	...	...	...	17
Dislocations,	...	...	...	...	3
Fractures,	...	...	...	...	15
Incised or lacerated wounds,	...	...	...	...	18
Burns and scalds,	...	...	...	...	3
Abscesses and ulcers,	...	...	...	...	49
Diseases of Bones—	...	...	...	...	11
Joints,	...	...	...	...	16
Eye, ...	...	...	...	...	1
Ear,	...	...	...	...	1
Skin,	...	...	...	...	9

Tumours,	17
Veneral diseases,	18
Malformations,	5
Miscellaneous,	15
Total,	215

The foregoing summary presents a fair notion of the field for observation laid open to the view, and the practical instruction of the dispensary surgeon and hospital student. The detailed list of diseases, which I now present, may be of greater interest, because illustrating the great variety of modifications that are needed in applying principles of treatment:—

Contusion of—

Hand,	1	Chest,	2
Finger,	1	Foot,	2
Wrist,	2	Ankle,	1
Elbow,	3	Leg,	2
Arm,	3		

Sprain of—

Thumb,	1	Shoulder,	5
Wrist,	5	Ankle,	2
Elbow,	2	Knee—ligament of Patella,	2

Dislocation of Elbow—backwards—partial fract. of coracoid,	1
„ Shoulder—right sub-glenoid—old,	1
„ Knee—semi-lunar cartilage,	1

Fracture of—

Fingers,	4	Leg,	1
Forearm,	4	Hip—old intra-capsular,	1
Clavicle,	2	Ribs,	3

Incisions or Lacerations of—

Finger,	4	Biceps—muscle ruptured,	1
Wrist—one causing traumatic aneurism of radial,	2	Scalp,	8
		Foot,	2

Burns and Scalds—

Face,	1	Wrist—both from naphtha oil,	2
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Abscesses and Ulcers—

Simple—various situations,	4	Axilla,	1
Face and neck—strumous,	5	Mammary,	1
Neck—anterior triangle,	11	Lumbar—probable sacro-iliac disease,	1
Parotid,	1	Leg—varicose,	10
Scalp—several very diffuse,	2	Anus—fistula,	1
Palmar,	5	Carbuncle of neck—posterior surface,	1
Elbow—not involving joint,	4	Foot—dorsum,	1
Arm—sinus on back 12 inches in length,	1		

Disease of Bones—

Anchylosis of wrist,	1	Necrosis of foot—tarsus, ...	2
Necrosis of ulna,	1	do. leg—tibia,	1
do. foot—phalanges, ...	2	Curvature of spine at dorsal	
do. foot—metatarsus, ...	3	region,	1

Disease of Joints—

Wrist—synovitis of carpal		Knee,	3
articulation,	5	Knee—patellar bursa, ...	2
Elbow—very profuse suppuration, 1		Knee—neuralgia—hysteria?	3
Ankle,	1	Hip,	1

Disease of Eye—iritis,	1
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Disease of Ear—mastoid—causing facial neuralgia,	1
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Disease of Skin—Erysipelas of face,	2
“ of arm following vaccination,	2
Eczema of hand—dorsum,	1
“ of scalp,	1
“ of foot,	1
Psoriasis of foot—heel,	1
“ of foot—plantar surface,	1

Tumour—Enlarged cervical glands,	2
“ axillary glands,	2
Goitre,	2
Hæmorrhoids, external,	1
Nævus in lumbar region of infant, 16 months, ...	1
Polypus in nose,	1
Hypertrophy—side of nose—cartilaginous—size of a bean,	1
Cystic—large—dermoid—on back of neck,	1
Cystic colloid—over external malleolus,	1
Epithelioma of tongue—male æt. 47,	1
“ of penis—male æt. 50,	1
Schirrus—right mamma—female æt. 53,	1
“ —left mamma—female æt. 36,	1
Sarcoma—Testicle, probably malignant, complicated with hydrocele—male æt. 52,	1

Venereal—Gonorrhœa,	1
Chancre—soft—one female,	4
Bubo,	2
Sinuses of groin—following bubo—extensive—involving abdominal walls to umbilicus,	1
Gummata,	1
Ulcer of scalp—caries of bone?	1
Ulcer of throat,	3
Ulcer of leg,	3
Stricture of urethra following gonorrhœa?	2

Malformation—Supernumerary thumb—right—female æt. 7—removed by operation,	1
Flat or splay foot,	1
Genu valgum or knock-knees—extreme distortion, ...	3

Miscellaneous—Hernia—inguinal—right—male,	...	...	2
Hydrocele—æst. 5 weeks,	...	...	1
" —æst. 21,	...	...	1
" —æst. 35—double,	...	...	1
Retention of urine—female,	...	...	1
Vaginitis—strumous—æst. 4,	...	...	1
Foreign body in hand,	...	...	1
Paralysis—left arm—musculo-spiral nerve,	...	...	1
" —right leg,	...	...	1
" —Hemiplegia,	...	...	1
Tuberculosis—abscess of lung,	...	...	1
Disease of kidney,	...	...	2
Amenorrhœa,	...	...	1

Of the minor surgery of dispensary practice I select a few examples, not because of anything in them that is very remarkable, but because they illustrate that all is not always plain sailing, and that there is sufficient variety to exercise the judgment of the surgeon.

Foreign Body in Palm of Hand.—A miner, aged 32 years, was injured by an explosion or "blast" about 8 months ago. His face, neck, and arms are tattooed with gunpowder, now thoroughly engrained. His left hand was lacerated by the accident, and he had since been unable to use it, the wound having never entirely healed, but gave out a continuous discharge. He had been seen and treated by several medical men, but with no benefit. The discharge came from a small opening on the ulnar side of the palm, only sufficient to admit a probe, and it had, he said, been very often "ripened," *i.e.*, probed. I introduced a probe, which passed across two-thirds of the palm, deeply and under the flexor tendons. The discharge did not indicate caries, of which, moreover, other symptoms were wanting, but the continuous discharge, with absence of matted tissue, conjoined with immobility of the fingers, suggested the presence of a foreign body. I accordingly enlarged the opening sufficiently to permit a more thorough search, with the result of detecting and extracting a piece of wood thicker than an ordinary match, and above one inch in length, imbedded between the second and third metacarpal bones. The wound healed very rapidly, and the patient recovered the full use of his hand.

Parotid Abscess.—A labourer, aged 28, complained of "excruciating pain" over and above the left zygoma. He had not sustained any direct injury, and the history of the case did not suggest any cause. But on carefully manipulating the part there could be discriminated, apart from the bone and lower down, a firm portion nearly as hard as bone. An

incision was made near the edge of the jaw, and, dissecting a little deeper to and through the dense fascia that ties down the parotid gland, then introducing a grooved director the hard portion was reached and punctured, and about two teaspoonfuls of pus escaped. Instant relief followed and has become permanent.

Hydrocele, complicated with Sarcomatous (?) Tumour.—The patient, aged 52 years, stated that the swelling came on about four years ago, and had been gradually increasing. The skin and other coverings were very tense, and the enlargement extended up to and into the inguinal canal. Fluctuation was evident, and the presence of fluid was otherwise determined by transmitted light. A trocar was introduced into the lower part of the tumour, and two ounces of a somewhat viscous fluid of a dark sherry colour was drawn off. It was then found that the greater portion of the swelling consisted of a hard mass lying over or in the position of the testicle and cord. This discovery of a morbid growth made the case one for indoor treatment, and I sent it in to Mr. Clark's ward, where he removed the entire mass, which involved the gland. The exact nature of the growth could not be determined by ordinary inspection, and it was remitted to Dr. Newman, as pathologist, to make a microscopic examination. Pending his report I believe it to be a case of sarcoma. The tumour was no doubt the originating cause of the hydrocele.

Traumatic Aneurism of the Radial Artery.—A female, aged 22 years, sustained a severe cut across the wrist from putting her hand accidentally through a window pane she was cleaning. The medical man who saw her immediately after the injury stitched the wound. The same evening a copious hæmorrhage occurred, and the wound was a second time stitched and a bandage with other dressings applied. A week afterwards she presented herself at the dispensary. The wound was healing but still open, and a pulsating tumour had formed underneath. Although the condition gave promise of future trouble, a recovery without operative interference was possible, and a simple dressing applied till the following day. On the second day, when she attended to have it examined, the wound suddenly gave way, and active hæmorrhage set in. She was greatly weakened and depressed through the previous losses of blood, and I accordingly—assisted by my dispensary colleague, Dr. Muir—placed her under chloroform while hæmorrhage was commanded by pressure over the principal vessel. It was now seen that

a large traumatic aneurism of the radial artery had formed immediately where the vessel winds to the back of the wrist. The condition of the parts, together with the position of the artery overlapped by tendons, occasioned considerable difficulty in reaching and securing the vessel. Ligatures were applied above and below the aneurism. No after bad consequences occurred, and the case did remarkably well.

Cystic Tumour over the Ankle.—A gardener, aged 50 years, suffered much inconvenience and considerable anxiety of mind from a tumour, the size of a hen's egg, situated over the left external malleolus. It had existed above one year, and was increasing. He could attribute it to no other cause excepting his employment and the use of the foot in digging. The tumour was movable laterally in a slight degree, and therefore I concluded that it was not adherent to the bone. A crucial incision was made, and the skin was dissected from off the walls of a soft tumour. The base of the growth required careful dissection to avoid opening the sheath of the peronei tendons, to which it was closely attached, but it was cleanly removed without injuring the tendinous sheath. When removed the tumour was found to be a complete cyst, filled with a tenacious lemon-coloured jelly. A poro-plastic splint was applied to fix the ankle joint, and the wound was dressed with a pledget of lint soaked in compound tincture of benzoin. Within a fortnight the case was off my list cured.

It is clear to my mind that this was a case of chronic inflammation and enlargement of a vesicular bursa—*de facto*—a synovial sac. The contents were nearly similar to that found in a common affection of the vaginal bursa of the tendons over the dorsum of the foot and back of the hand, called a "ganglion." But it more nearly resembled the gelatinous substance occasionally found in chronic enlargement of the bursa over the patella. But vesicular bursæ over or about the ankle are uncommon, and the occurrence gives me the opportunity of referring to the fact—not sufficiently taught in the dissecting room or in modern anatomical works—that vesicular bursæ are numerous, and may usually be found over all projecting and superficially protected angles of bone. They are, moreover, liable to be developed—even when previously non-existent—under conditions involving pressure and friction. The anatomical student has his attention directed specially to only a few specified vesicular bursæ, although made sufficiently familiar with the vaginal bursæ of the tendons and muscles. The elder Munro, in his classical and now very rare monograph on the *Bursæ Mucosæ of the Human Body*, describes and

delineates above seventy pair of these vesicular bursæ, but above one hundred may now be described. And I am the more earnest in directing attention to the peculiarity in situation of the present case because I can easily conceive that a surgeon not well grounded in scientific anatomy, meeting with a similar occurrence in his practice, might be considerably puzzled and led astray in accounting to himself or to others for the true pathology of such a tumour.

Phymosis from Chancre.—The operation of circumcision was performed in three cases on account of phymosis. This was caused by the swollen condition of the prepuce of the glans penis arising from inflammatory action, the result of chancres and imprisoned foul discharges. The operation under such conditions occasions, no doubt, the risk of an extension of syphilitic action to the raw edges of the wound, and this accident did occur in one of the cases. But if it were a certain occurrence, it is nevertheless a very much smaller evil than the extension and aggravation of disease which otherwise is going on between surfaces constantly bathed with foul infecting matter which cannot be cleared out, and to which curative agents cannot be applied. The relief, moreover, that is afforded by the operation is almost immediate, and, according to my observation, the ultimate benefit is equally certain and great.

A CASE OF LEPTO-MENINGITIS INFANTUM.

By WILLIAM FRASER, M.B.,

Late Senior Resident Medical Officer, St. Mary's Hospital, Manchester.

A. B., aged 14 months, was brought to me for advice on the 16th of July. The history was, that previous to his being weaned about the first of June he had been a child of quite unusual size, weighing when five months old no less than 35 lbs.

Since the date mentioned it had been observed that he was much more fretful and irritable than formerly, and had frequent fits of crying. He had also lost all inclination for food, and had fallen off in flesh to a marked degree. On examination the latter fact was fully borne out by the lax and flabby condition of the limbs; but apart from this circumstance the general condition of the child did not appear

very unsatisfactory. The pulse was only slightly accelerated, the temperature 99.5° ; there was no history of any head symptoms, and the bowels were regular. The larger viscera also all seemed to be perfectly healthy. The gums, however, were hot and tender, the saliva was increased in quantity, and there was every appearance of an impending eruption of teeth.

I came to the conclusion that the weaning and dentition were probably the main elements in the case, and prescribed and advised accordingly.

On the 19th, his mother came to inform me that after partaking of a hearty meal he seemed about to have a fit. I ordered an enema which gave immediate relief.

On the morning of the 21st July I was asked to visit him, and although nothing had occurred during the night to attract attention, I then found complete hemiplegia of the left side. The child was perfectly conscious, and lay quietly in his crib apparently suffering no pain. The pupils were slightly dilated but active; pulse 130, small and irregular; temperature 101.5° ; sensation remained perfect on both sides. In this condition the child remained all day, partaking of nourishment as usual, but at midnight he began to be convulsed and continued to be so at short but irregular intervals until next morning, when I again saw him. The entire voluntary muscular system was then in a state of tonic spasm, the limbs were rigid, the thorax arched, and the head retracted on the trunk. At intervals of about half an hour this state of tonic spasm was interrupted by a series of clonic seizures, involving chiefly the extremities. While these continued the thumbs and fingers were bent into the palm, and the forearms flexed and extended upon the arms by short rapid rhythmical movements.

The inferior extremities were similarly affected, though in a minor degree. These movements extended also to the face, giving rise to hideous contortions. The respiration was irregular, but there was no lividity. Pulse 140; temp. 102° .

On the 23rd I saw the child very frequently, and the condition of things already described remained unaltered. The little patient was still able to swallow small quantities of nourishment in the intervals of the seizures. Temperature, morning, 102.5° ; pulse 130. Evening temperature 103° ; pulse 140.

24th. To-day there has been a remarkable diminution not only in the number but in the severity of the convulsions. Consciousness is now, however, almost entirely abolished, and there is an increasing tendency to coma. The pupils are con-

tracted to pin points and there is an entire inability to swallow. In this condition the child remained all day, and gradually sank and died at 6 p.m.

Post-mortem * *examination* 24 hours after death. On opening the skull and reflecting the dura mater, the convolutions appeared flattened as if they had been slightly compressed. The veins of the cerebral cortex were much engorged. The outer surface of the visceral layer of the arachnoid was smooth and dry, but at a spot the size of a half-crown, situated about the middle of the ascending frontal and parietal convolutions of the left hemisphere, the pia mater was covered by a thin yellowish layer of lymph. During the removal of the brain several ounces of clear serous fluid escaped from the lateral ventricles. On section of the hemispheres, the centrum semiovale did not present any unusual number of vascular points on either side, but the substance of both hemispheres, and especially that of the left, was very soft.

The optic thalamus and lenticular nucleus of the left hemisphere were so much softened as to be almost diffuent. The ependyma of the lateral ventricles was soft and uneven, and it appeared in parts to be covered by a layer of lymph, but the surrounding textures were so much softened that it was doubtful whether the layer consisted of lymph or of the smooth and softened ependyma. At the base of the brain a layer of lymph about $\frac{1}{8}$ of an inch in thickness was found in the interpeduncular space, underneath the visceral layer of the arachnoid. The inner surface of the dura mater at the base of the skull was perfectly smooth and without a trace of opacity.

From the comparatively sudden onset of the hemiplegia in this case, and the almost total absence of previous head symptoms, or of any apparent cause, apart from dentition, of meningeal inflammation, I was inclined in the first instance to regard this as a case of cerebral hæmorrhage, although the comparative rarity of that condition in children rendered the acceptance of such a diagnosis a matter of some difficulty. The subsequent development of the case gave no certain indication of its true nature, and the *post-mortem* examination therefore was not only interesting but instructive.

Dr. West, in his article on the Diagnosis of Infantile Meningitis, states "that it is a disease beginning in a previously healthy child, with violent vomiting and intense febrile excitement; that it is either ushered in by convulsions or that these occur soon, recur often, and last with little intermission till

* At the *post-mortem* I have to acknowledge the very able and kind assistance of Dr. James Ross.

death, which may occur in a few hours, and is seldom delayed beyond a week."

It must, however, be apparent to any one at all familiar either with the literature of the subject or with the varied and varying manifestations of meningeal inflammation in children, that the above description, though probably true of a typical case, gives no adequate conception of the symptomatology of this disease. Other authors, and especially M. Rilliet,* whose observations upon this subject appear to form the basis of all the English literature connected with it, divides the cases into two classes.

1st. The *convulsive*, occurring in very young children, with a violent attack of general convulsions, high fever, &c.

2nd. The *phrenitic*, commonest in children from 5 to 15, setting in with frequent bilious vomiting, violent headache, great sensibility to light and noise, &c. He also states that in rare cases we may have hemiplegia.

The diagnosis of infantile meningitis from hæmorrhage into the substance of the brain presents usually few difficulties, as the symptoms of the latter resemble closely those found in the adult. With meningeal apoplexy, however, the case is different, as the symptoms vary greatly, both in kind and in degree. Paralysis, so common in the adult, is rarely seen in children, and was found by M. Legendre† in only one out of nine cases, and by MM. Rilliet and Barthéz in one out of seventeen. The most constant symptoms appear to be the sudden occurrence of violent convulsions and their frequent return, alternating with spasmodic contractions of the fingers and toes in the intervals.

The presence of the hemiplegia as a primary symptom in the case which I have recorded lent some support to the view originally entertained, that it was one of cerebral hæmorrhage.

It is of interest, as showing the difficulties which are frequently connected with the accurate diagnosis of cerebral affections in children, and also as proving that hemiplegia may occur even as an early symptom in cases which pathologically present the typical appearances of meningeal inflammation.

The treatment adopted consisted in the application of cold to the head, free purgation by calomel, and the administration of bromide of potassium.

* *Archiv Gen. de Med.*, t. xii, 1846.

† *Recherches Anatom. Pathologiques sur quelques Maladies de l'Enfance.* 8vo, Paris, 1846, p. 130.

ON THE TREATMENT OF SCARLET FEVER.

BY JOHN S. MAIN, M.D., C.M., WITHINGTON, MANCHESTER.

PERHAPS, since the immortal discovery of Jenner in 1796 and the subsequent overthrow of the "reign" of small-pox, no other "zymotic" disease has clung to us with such tenacity, claimed more victims, or caused more deaths than scarlet fever. This, in addition to its inherent infectiousness, we cannot altogether wonder at when we bear in mind the vast amount of exfoliation of the cuticle that occurs during the later stage, and that this, getting scattered about, carries infection whithersoever it listeth. Till once this point is properly understood by the public in general we may expect scarlet fever to rank amongst the most infectious of our existing "zymotics;" and no doubt the necessary hygienic treatment to adopt, and, if possible, enforce during this stage, is at present the most important means in our power of curbing its epidemic character.

For scarlet fever I don't think we have as yet a specific remedy, in the exact sense of the term. Not, I mean, in the same sense as quinine is a specific in ague, arsenic in certain forms of skin diseases, bromide of potassium in epilepsy, or mercury or potassium iodide in their own appropriate types of syphilis. Still, in the combination I am about to recommend, and which I invariably adopt, I am sure we have as near an approach to a specific remedy as is well possible. We have in it at least a combination which has given me and many others *entire* satisfaction.

Far be it from me to claim originality by any means for this treatment *in toto*; I am fully aware it has been bruited several times. On the principle, however, that an important truth cannot be too much dwelt upon, and to express my firm belief and reliance in its efficacy, I have very much pleasure in adding *my* testimony. The treatment I refer to is that by a combination of the tincture of the perchloride of iron and chlorate of potash. This I generally combine with glycerine; and here I would remark that as chlorate of potash is very insoluble in cold water it is well to have it dissolved, at the time of its being dispensed, in hot water. If this be not done we are sure to have our bottles frequently sent back, when wanting re-filling, with the greater part of the chlorate of potash undissolved.

The quantity of the tincture of the perchloride to be given of course varies according to the intensity of the case and

the age of the patient, but a "fairish" dose, is generally indicated. The theory of this medicine in scarlet fever has been very well described in an article in the *Lancet* of 20th August, 1878, by Dr. Renfrew. He describes it thus:—"This mixture contains chlorine, hydrochloric acid, iron, and chlorate of potash. The acid supplies acid to the blood, which is in a sub-acid condition; the iron improves the red discs, which are in a black and melanosed state; the chlorate of potash supplies oxygen to assist in oxydising the disintegrated material in the blood, where it floats freely." This theory is no doubt very "digestible," and as, mentally speaking, we like to have a kind of *terra firma* for our arguments, it is just as well to build them on some such foundation as this. The above theory, however, when put to practice, I am satisfied, proves quite correct.

As a general rule in medicine, iron is inadmissible where there is an elevated temperature; but in those diseases where there is a great tendency to the deterioration of the blood corpuscles, as in scarlet fever, diphtheria, and some others, it is highly commendable. Of course, be it understood that I don't recommend medicinal treatment in all cases of scarlet fever indiscriminately. On the contrary, I believe that a system of *laissez-faire* does best in the milder cases, and that careful nursing here is all that is necessary. My remarks apply solely to the more severe forms.

This treatment by iron and chloride of potash cannot, I think, be begun too soon. Nor do I ever find it necessary to make any change in it whatsoever, unless some special indication crops up. Only, that during the period of convalescence it does good sometimes to add hydrochloric or sulphuric acid in small doses as a tonic. Should the scarlet fever be combined with a slight amount of diphtheria, as it sometimes is, it is advisable to add quinine; or where rheumatism is marked we may in addition give an anti-rheumatic remedy. Even in the later stage of the disease, should desquamative nephritis set in, I don't think it wise to alter this treatment. In this case, however, it is often useful to add quinine. Of course, should there be marked renal congestion then the iron must be at once stopped till the function of the kidneys be again established.

As to the throat complication found in these cases. Here some are of opinion that "wrappings," if applied early by way of prevention, are apt to act as "determinatives" and cause the throat to be more liable than otherwise to become affected. This, however, I have certainly not found to be the case in practice.

Accordingly, I never fail to order the throat to be wrapped up lightly with a little cotton wadding from the very outset, having underneath, and wrapped round the throat, a piece of flannel smeared with carbolic oil by way of excluding the air. As to gargles, sedative ones are, I think, indicated almost throughout. The one I prefer, and which is also a slight stimulant, is that of chlorate of potash and biborate of soda, with glycerine.

During the stage of desquamation I order my patient to be kept in bed till the whole process is over, and, if possible, a week afterwards. If this be not requested we have certainly not done all in our power to prevent that *sequela* following—often worse than the disease itself. Of course, I refer to that form of kidney affection most common in these cases—viz., acute desquamative nephritis. It is certainly not always possible to get our patients to keep in bed during this length of time. At the same time it is highly advisable, as, if they do not, and what we anticipate should occur, we have forewarned our patient and so the blame rests with himself or herself. In all severe cases it is also necessary from the outset to have our patient, if a child, wrapped in a blanket while in bed, or, if an adult, with a blanket above and below—not sheets.

During the period of desquamation the patient should be bathed once in twenty-four hours in warm water, to which some Condy's fluid has been added, and afterwards rubbed with carbolic oil of a weak strength. To describe the hygienic precautions which should invariably be adopted to prevent the spread of the disease would form a long article of itself, and so I will merely take notice of this point in concluding by saying that they are all important and should be in every case enforced.

CURRENT TOPICS.

INCREASE OF POPULATION IN GLASGOW.—At the meeting of Town Council on 23d October, Dr. Russell, in his report on the health of the city, stated as follows:—"Since my last report I have obtained from Mr. Campbell, the city assessor, a statement of the occupied houses in the city, made up from

the valuation roll as finally closed and adjusted in June last. I am thus enabled to estimate the population on the basis of the average number of inhabitants per house ascertained at the census of April, 1881. The number of occupied houses was 110,638. Applying to this the multiplier 4·745 inhabitants per house, we get 524,977 as the population, exclusive of the inmates of institutions. By a special census I have ascertained that these numbered 6,223 in June last. Adding these, we get the population of Glasgow in June, 1882, as thus estimated, 531,200. Calculated on the rate of increase between 1871 and 1881 the Registrar-General's estimate is 514,048, or 17,152 less. That has, therefore, come to pass which was predicted in my report on the census. The city has resumed its development, and year by year the divergence between the Registrar-General's estimate and mine, based on local data, will increase, and the death-rate will *pari passu* be reported higher than it really is. The difference is not yet great. Taking the rate about to be reported for the past fortnight, my estimate would make it 23, while the Registrar-General gives 23·7; and as this is called 24, the difference amounts practically to 1 per 1,000. The rate of increase of the city seems to be very great, how great will appear when I state that in the whole of the preceding ten years the increase was only 19,674, while between June, 1881, and June, 1882, the increase, as shown by the increase of inhabited houses, was 19,166. In ten years we added 4 per cent to the population; in one year we have added 3·35 per cent. This exceeds the increment of any one year, even in our most prosperous times. If this continues, the statistical confusion into which we shall land will be apparent when I state that at the rate of increase allowed by the Registrar-General, in 1890 our population will be 530,451, while, as I have just shown, we have the best reason for believing that already in 1882 it is 531,200."

GLASGOW SOUTHERN MEDICAL SOCIETY.—The first meeting of the current session of this active and flourishing Society took place on 12th October, when the following gentlemen were elected office-bearers for Session 1882-83:—*President*, J. Barras, M.D.; *Vice-President*, Robert Park, M.D.; *Treasurer*, Ed. McMillan, L.R.C.S.Ed.; *Secretary*, A. T. Smith, M.B.C.M.; *Editorial Secretary*, Robert Pollok, M.B.C.M.; *Seal Keeper*, R. W. Forrest, M.D.; *Court Medical*, Neil Carmichael,

M.D., *Convener*, Andw. McFarlan, L.F.P.S.G., James Morton, M.D., John White, M.D., John Dougall, M.D.; *Three ordinary Members to complete the Council*, Wm. Carr, M.B.C.M., T. F. Gilmour, L.F.P.S.G., and A. Napier, M.D. The treasurer's report showed that financially the Society is in a healthy condition, the balance to its credit being £18, 19s. 6d. The number of Members on the roll is 95.

REVIEWS.

Our Sanitary Laws: How they are Administered. A contribution to the discussion of the question of public health. By ROBERT KIRKWOOD, M.D. Glasgow: James Maclehose & Sons, St. Vincent Street.

THIS pamphlet is a striking and forcibly written *exposé* of the lamentable incompetence of our Scottish Health Administrative Authorities to deal with insanitary conditions. The exciting cause of the two years' struggle with the sanitary authorities detailed in this pamphlet was a case of typhoid fever which Dr. Kirkwood was called to attend in a dairy farm. This dairy farm formed one of the principal sources of the milk supply of a fashionable watering-place on the Clyde. He found the patient lying in a small room opening off the kitchen, which again opened directly into the scullery, milkhouse, and byre. The excreta of this patient were being carried through the kitchen and scullery, and thrown into the end of the byre next the milk-house. "Tons of manure, and of thick, black, putrid liquid" were lying under the walls of the milk-house and byre. This byre contained 20 cows, and gave an average of only 300 cubic feet of air space for each cow. An outside privy was so placed that human excreta were carried into the drinking-trough for the cattle. The water used by the human inhabitants was got from a well in an adjoining field which was frequently under cultivation and liberally manured, so that the water was exposed to periodical contamination with animal excrement.

With all these insanitary conditions, we are not surprised to learn that fever had repeatedly attacked the inmates of this farm, and that some of the previous cases had been cases of typhoid. It is significant, in view of what we now know of the origination of typhoid epidemics in dairy

farms, that "on one occasion, when several members of the family were ill of fever,—one of the cases marked by alarming hæmorrhage from the bowels—a great many people, respectable people they were, were also ill of fever in the town, and some died." With the knowledge of the serious consequences which have so frequently resulted from a milk supply contaminated with typhoid excreta, Dr. Kirkwood, with the most praiseworthy zeal, took every possible precaution to prevent his patient from becoming a source of danger to the community. He then set himself to move the local health authority to have the disgraceful sanitary defects of this farm-house remedied. In numerous letters, and in most forcible language, Dr. Kirkwood set forth to these authorities the details of these flagrant nuisances and the dangers which might at any time result, not only to the health of the inhabitants of the farm, but also to the public health. The correspondence, as detailed in the pamphlet, is most interesting and instructive. After 18 months, during which he gave the sanitary authorities no peace, he sums up the results of his efforts as follows:—

"In October, 1879, a complaint is made to the Local Authority at Ayr—the Commissioners of Supply for the county. It sends an inspector. The inspector reports without examining the nuisance. His report is supplemented by a report giving details of the nuisance. The Local Authority does nothing. It is reported to the Board in Edinburgh. The Board reports the Local Authority to Her Majesty's Privy Council. The Privy Council reminds the Local Authority of the circumstances and of the requirements of the Dairies Order. The ultimate Authority in the country has been reached and moved. But the end is not yet. The Local Authority is quite equal to the occasion. While its clerk is reading to it the reminder of Her Majesty's Privy Council in London the Local Authority sits at Ayr, as impassive and motionless as did the Sphinx at Cairo to the bellows of Admiral Seymour's guns at Alexandria. It does nothing. Then the Board at Edinburgh is moved to put its medical officer in motion. The medical officer visits and makes suggestions to the proprietor and his factor. The proprietor and his factor listen, approve, and promise. Thereafter the medical officer reports to the Board. But the thing will neither end nor mend. Again the Board instructs its medical officer. He visits anew, and after a vain search for the fruit of the promises of the proprietor and his factor he again reports. But grown wiser now, he this time makes

his suggestions to the Board. These are to be carried out with the least possible delay. And now, a year and a-half after, the sanitary inspector reports to the Local Authority here that he has visited — and finds things there very much as they were, the most clamant defect, and the most objectionable arrangement, according to Dr. Littlejohn's report, being still unremedied. Such is the result of the united efforts of all the authorities in the kingdom to remedy a proven and flagrant nuisance in a farm-house in a small country parish. Will any one maintain, that to have achieved such a noteworthy result, indicates on the part of the Board a high sense of the importance of the trust committed to it? or, that such *paltering* as is here shown is not destructive of all confidence in the Board as an administrator of the public health? With such an administration is it strange that the Public Health Act should have proved a failure in Scotland?"

The case of the farm, which gave rise to so much fruitless effort on the part of the author of this pamphlet and the health authorities of the country, is interesting to the community at large, not on account of its rarity, but because it is a type of the insanitary state of most of the old farm steadings in the West of Scotland. The difficulty and opposition which Dr. Kirkwood met with are met with in almost every country district in Scotland, when any effort is put forth by an individual in the interests of the public health. The health authorities in rural districts were originally constituted for poor law administration, and have long shown themselves to be hopelessly incompetent to deal effectively with sanitary matters. What Mr. Chadwick said of the Poor Law Boards of England before the reform of 1834 may now be said of the parochial authorities of Scotland in their capacity as public health administrators. "The ignorance, the injustice, and the waste of this local government and its expense, exceed that of almost any existing form of Government known," only here the waste is not of the money but of the health and lives of the people, and the money value of the lives so lost is incalculable. A sweeping reform must take place in our methods of administration, and fresh powers must be placed in the hands of competent administrators to enable them to compel the summary removal of the flagrant insanitary conditions of our farms and dairies which the numerous milk epidemics of the past ten years have disclosed. We hope that Dr. Kirkwood's pamphlet will be widely read. He deserves great credit for his persevering efforts in the cause of sanitary reform.

Manual for the Physiological Laboratory. By VINCENT HARRIS, M.D.(*Lond.*), and D'ARCY POWER, M.A.(*Oxon.*)
2nd Edition. London: Ballière, Tindall & Cox. 1882.

THIS is the second edition of a small and useful handbook for the Physiological Laboratory. It has followed what appears to be a natural law regarding such books, the present edition being considerably larger than the first, the appreciation of which, on the part of those engaged in this branch of study, is proved by a rapid sale in two years.

The subject is divided into three portions, under the headings of histology, physiological chemistry, and practical physiology. The last of these is entirely new, and many valuable additions have been made to the other two, the type now selected being also better.

The plan adopted in the histological part is a good one. General directions are first given for hardening the tissues, section cutting, staining, injecting, and mounting; and the various tissues and organs are then taken up in order with details for their preparation. An epitome of what is to be observed in each is added, and this should prove handy for practical work. The descriptions are not sufficient to enable anyone to "cram" from them; but, if a student has not acquired the habit of preparing epitomes for himself, those here supplied will permit such a book as *Quain* to be read with more ease and profit. The methods of preparation are excellent, although, as might be expected, the authors occasionally show what others will consider a too fond partiality for what has doubtless given good results in their hands. Everything, however, is brought up to date, sufficient information being given regarding all the elaborate treatment which tissues now receive when being prepared for microscopic examination. After an intelligent student has employed the methods recommended in each case, he will be in a position to apply the hints regarding other ways of preparing the tissues found at the beginning of the book. Almost nothing of importance seems to have been omitted; but we regret that a place has not been found for the method of determining the magnifying power of a microscope and of measuring an object. Nor is there any mention of that very useful little instrument, Shadbolt's turn-table, the employment of which does so much to further one of the practical effects of histological work, the training of the hands in fine and neat manipulations. An unfortunate student, who puts too much glycerine under a cover glass,

is left without a hint that a small glass pipette would relieve him of his difficulty. We cannot agree with the epitome of the choroid, and note that the Gasserian ganglion is included among the sympathetic nerve structures. Steeping in gum before freezing is advisable for other tissues besides lung, and a section of hard bone is less difficult to make than one of unsoftened tooth. An unaided beginner could hardly work out some of the instructions; but the book is admirably adapted for class work, where any difficulty can be removed by the teacher. Apart from these slight faults this part of the volume can be cordially recommended as a text book in the histological classes, which now form part of a complete medical curriculum.

The second or chemical part is well arranged, and the urine is treated in more detail than in the former edition. It would have been well if the volumetric process for the estimation of urea by Liebig's method and of phosphoric acid had been included, and the forms of the crystals of uric acid and phosphates might have been mentioned along with the other deposits under abnormal urine. The importance of the gastric juice would have received recognition by a description of the application of artificial gastric juice in studying the action of digestion upon proteids and the more common ingredients of food. The chief substances found in the animal body receive careful consideration, and the remarks regarding the composition and reactions of each are eminently practical.

In the third part a confessedly difficult subject is handled with considerable success. The use of the refined apparatus now employed in experimental physiology can scarcely be learned from the pages of a book; but many of the difficulties of this matter are happily surmounted by the authors, and here also any deficiency can be supplied by oral instruction. Several diagrams of instruments are given, and short directions appended for their use. Marey's tambours might have been described, as their convenience renders them particularly useful. When a student has once seen the experiments described carried out, and has become acquainted with the instruments themselves, he will be glad of the *résumé* of the work, which is given in such a book as this. The principal experiments on muscle and nerve are adequately treated, and the reader is referred to the larger handbooks for the Physiological Laboratory for further details. Want of space has evidently led the authors to omit the experimental study of the special senses.

Altogether, this is a most excellent little manual; and, while necessarily very much condensed, even in the improved and enlarged form, the instructions, so far as they go, are capitally clear and precise, and the amount of ground covered is surprisingly large. This merit is accounted for by the statement in the preface—that the book owed its origin to the necessities of students, and the utility of the work must be largely ascribed to its growth having been guided by the practical experience of the authors.

The Medical Digest, or Busy Practitioner's Vade-Mecum. By RICHARD NEALE, M.D., London. Second Edition. London: Ledger, Smith & Co. 1882.

WE have much pleasure in welcoming this second edition of Dr. Neale's invaluable "Digest." In its original form it appeared as one of the New Sydenham Society's volumes for the year 1877. This edition is considerably larger than that of 1877, containing more than 20,000 additional references to various works and papers that have been published during the last five years. Its value is much increased also by the widening of the field from which its information is drawn; thus, to the now extinct *British and Foreign Medico-Chirurgical Review*, *The Lancet*, *Medical Times and Gazette*, *Ranking's Abstract*, and *Braithwaite's Retrospect*, the only periodicals represented in the former edition, there are now added *The British Medical Journal*, *The Practitioner*, and *Medical Record*, and in future editions our friend *The Medical Press and Circular* is to be included. This work, therefore, while not claiming to be a complete index of medical literature, professes to be, and apparently is, a digest of these widely diffused journals; and as nearly everything of value which appears in other journals, home or foreign, is noticed in one or other of the above-named periodicals, the possessor of this volume may rely on it as a guide to the recent literature of almost any case or subject he may wish to study. Take antiseptics, for instance: the early literature of this subject consists mainly of articles scattered through a number of journals in such a way as to give endless trouble to any one desirous of investigating the matter from the beginning; here, however, will be found a perfect mine of references to papers on antiseptics in general, antiseptic dressings in surgery, antiseptic materials, antiseptic ligatures, &c. And so with many similar subjects. The author insists on the book being received

as a "digest" and not as a mere "index;" we fail to see, however, in what respect it differs from what one would expect in an index of the periodicals with which it concerns itself.

To those who have access to a library where the journals referred to may be found, this volume will prove extremely useful; while others, who own what they are apt to regard as mere lumber, namely, large sets of journals, will find that it will immensely increase the value of their possessions of this kind. Even to such as do not possess these periodicals, and have no means of consulting them, this volume will render good service, as there is scarcely a disease that can be named regarding which there are not abundant, and novel, and often out of the way hints as to treatment to be extracted from the short titles and remarks which abound in the "digest."

While recommending Dr. Neale's work as quite invaluable to every one who has occasion frequently to investigate or write upon medical subjects, we would venture to point out one respect in which it is deficient, or even apt seriously to mislead. References to papers originally published in journals other than those selected for "digestion" by the author must of necessity refer only to such *abstracts* of these papers as may have appeared in one or other of these periodicals; whoever, therefore, goes to any great trouble or expense in following up the quotations given here, does so at the risk of finding that, after all, he has to do only with a meagre condensation or *résumé*, and not with the original article. One instance of this kind has just occurred to us. In looking over the index the title "Physaliation of Urine," a subject with which the name of Dr. R. Kirk, of Glasgow, is intimately associated, caught the eye, and on turning to the body of the work it was found that the references were to the *British Medical Journal*, vol. ii, 1881, pp. 978 and 1054; pursuing the matter further, we found, as we expected, that on the first of those pages quoted there was no article by Dr. Kirk, but only a very short note by him on the subject in response to some remarks made by Mr. G. S. Johnson, while on p. 1054 there is only a note by Mr. G. S. Johnson replying to that of Dr. Kirk just referred to. The fact is that Dr Kirk's valuable contribution to this subject appeared, not in the *British Medical Journal*, but in the *Glasgow Medical Journal* for October, 1881. This entry, therefore, is absolutely certain to lead one astray; and there must be many more like it, especially when it is recollected that the excellent abstracts found in such periodicals as the *London Medical Record* and *The Practitioner* are now included in the "digest." Wherever possible, the original source

should be given. We would suggest that in future editions some distinction should be made, either by the adoption of a different type or otherwise, in such entries as refer to abstracts.

Notwithstanding the defect we have alluded to, and the fact that the "digest" is somewhat limited in its scope, we are of opinion that the excellencies of this book are such that it should have a place on the table of every medical practitioner.

Nitro-Glycerine as a Remedy for Angina Pectoris. By
WILLIAM MURRELL, M.D. London: H. K. Lewis. 1882.

It is only quite recently that nitro-glycerine has been much recommended in cases in which the nitrite of amyl had been found to be of service, the physiological effects of the two drugs being very similar. From this little work, however, we learn that some twenty-five years ago the action of this substance was studied, and its effects described by Mr. A. G. Field, of Brighton. The publication of his experience led others to try it, with the result that his conclusions were challenged. But opinions were so conflicting that some five years ago Dr. Murrell began investigating the subject for himself, and the result is the present work—some of the cases in which have already been published in the *Lancet* (1879).

The physiological effects which he has observed on himself are violent throbbing in the head, acceleration of the pulse, the pulsation sometimes jerking the whole body, drowsiness and languor, followed, if the dose has been considerable, by intense headache. In several cases unconsciousness, lasting for two or three minutes, has occurred, and in others nausea and pain in the epigastric region. From sphygmographic tracings of his own pulse he states that the actions of nitrite of amyl and of nitro-glycerine are similar, both producing marked diastole and accelerating the pulse. But while in the case of nitrite of amyl the effect is obtained in from 15 to 20 seconds after inhalation, and has passed off in a minute and a-half, in the case of nitro-glycerine the full action in the tracing is not obtained until 6 or 7 minutes after the dose has been taken, and it lasts much longer, not altogether disappearing for about half-an-hour. In a case of epispadias, which was extremely insusceptible to the action of the drug, it was noticed that it caused an increased flow of urine, several very interesting observations on this point being

recorded. But Dr. Murrell does not state whether he has observed the same effect in other instances.

The chief portion of the book is taken up with cases showing its influence on true angina pectoris, on pseudo-angina, and on some cases of aortic disease. Details are also given of the cases in which it has failed in his hands. These are all so fully recorded, and sources of error so carefully excluded, that it is impossible to doubt its beneficial effect, of which we have had experience. Dr. Murrell mentions that it is sometimes used in neuralgia, migraine, epilepsy, asthma, whooping-cough, Bright's disease, sea-sickness, and other complaints; but unfortunately he does no more than mention the fact. We should have liked to have heard his opinion of its value in asthma, in which it is said to be of considerable service.

It may be administered in the form of a one per cent alcoholic solution, pills, or chocolate tablets. The latter are most useful for those who require to carry their remedy about with them. There are no definite rules as to dose, one man being able to take 100 minims of the solution, while another suffered severely from half a minim. It is best to begin with half minim doses every 3 or 4 hours, and to go on increasing the dose until physiological effects are produced. After a time tolerance is established, and the patient is able to take more than at first; but it seems to us that Dr. Murrell exhibited the drug much too freely.

We recommend those interested to possess themselves of this work, which, unlike many monographs on new remedies, is not cooked for the sake of proving the infallible powers of its subject.

A Plea for Early Ovariectomy. By G. GRANVILLE BANTOCK, M.D., F.R.C.S. Edin., Surgeon to the Samaritan Free Hospital for Women and Children. London: H. K. Lewis. 1881.

IN a little book of forty pages, Dr. Bantock discusses the question of operation in ovarian disease in regard to the period in the case when ovariectomy should be practised, and he is altogether on the side of early removal of the diseased organ. The view held by Wells, Peaslee, West, and Thomas, that it is better to wait till the tumour begins to give rise to marked trouble, is strongly condemned, and the author argues that "the following propositions are more consonant with the first principles of scientific surgery, and are justified by

experience of the operation :—1. We should not wait till the patient's general health has become impaired, or, in other words, the principle of such delay is a departure from that generally followed in the case of other diseases treated surgically. 2. The presence of the tumour is the cause of structural disease in other organs. 3. Ovarian tumours are liable to a variety of accidents, such as rupture, either from injury or spontaneously, and twisting of the pedicle; to morbid processes, such as inflammation, atheromatous degeneration of the blood-vessels, which, with fatty change in the walls of the cysts, lead to hæmorrhages into their interior, &c. 4. The existence of adhesions, of degenerative changes in, and rupture, &c., of the tumour, greatly interferes with the success of the operation. 5. On the contrary, the earlier and simpler the operation the greater is the chance of recovery."

The remainder of the essay is taken up by cases, statistics, and clinical observations, tending to prove that the above mentioned propositions are sound; and the author concludes by saying, "I would urge, then, with all the force which the strongest conviction imparts, that ovariectomy should be performed as soon as we can be sure of the diagnosis; believing as I do that, were this rule followed, in only a majority of the cases, the success would be much greater than we are even now able to boast of."

We have always thought that in such cases operative interference is too long delayed, and we think that Dr. Bantock has advanced facts in favour of early operation which will be very difficult to set aside or regard in any other light than that of proving its advisability.

We commend this brochure to all whom it may concern.

Essentials of the Principles and Practice of Medicine: A Handbook for Students and Practitioners. By HENRY HARTSHORNE, A.M., M.D., Editor of American Edition of *Reynolds' System of Medicine*. Fifth Edition. London: Smith, Elder & Co. 1881.

DURING the past few years this work has been occasionally seen in the hands of students going up for their final examination. It is essentially a cram-book. Within the compass of 600 pages it treats of the history of medicine, general pathology, general symptomatology, and physical diagnosis (including laryngoscope, ophthalmoscope, &c.), general therapeutics, nosology, and special pathology and practice. With such a

wide range condensation is, of course, a necessity; but the author has endeavoured to make up for this by copious references to original papers, &c. In condensing he has not lost sight of the fact that views opposed to those which he himself may hold require to be stated. Hence we find that many important subjects are discussed briefly but well, *e. g.*, the pathology of tubercle, treatment by blood-letting, antipyretics, stimulants, &c. The least successful section of the book is that dealing with physical diagnosis, which is so compressed as to be of little service; that on treatment is the best.

We cannot but admit that there is a wonderful amount of information contained in this work, and that it is one of the best of its kind that we have seen.

REPORTS OF HOSPITAL AND PRIVATE PRACTICE.

WESTERN INFIRMARY.

REPORTS UNDER THE SUPERVISION OF DR. W. G. DUN.

FROM DR. GAIRDNER'S WARD.

(Temporarily under the care of DR. JOSEPH COATS.)

ACUTE EMPYEMA—PARACENTESIS THORACIS, REPEATED SEVERAL TIMES.—DEATH.—[Reported by Robert Beith, M.B.]—The following case is probably of interest more on account of the futility of treatment and the rapidity of its course than because of its rarity.

J. M., æt. 27, was admitted to Ward I on 19th September, complaining of dyspnoea, cough, and expectoration of frothy mucus. Till 2nd September he was in his usual health, which had always been very good. On that day, after having been exposed to cold on a tramway car, he was suddenly seized with pain in the left side of the chest: this was exceedingly severe, and made his breathing very difficult. He had no rigors then or at any subsequent period. No cough troubled him at first, but soon a short hacking cough was established, which after a time was accompanied by white frothy expectoration; nothing resembling blood was observed in his sputa at any time. His

skin was very hot and he sweated profusely. He came to the Infirmary because his condition appeared to be getting worse.

On admission his temperature was 99·6° F., although from his own account it had been much higher. He lay by preference on his left side, and when questioned on this matter he said that his cough became much worse when he attempted to lie on his right side or on his back. The pain, which was so markedly present in his left side at the beginning of his illness, had been entirely absent for a week before admission; but dyspnoea was worse, and the respirations now numbered 40 in the minute, and were somewhat gasping and associated with expansion of the alæ of the nose; his face and lips were livid, although not exceedingly so. His pulse was very small, and numbered 120 in the minute.

Examination of his chest was accomplished with great difficulty because of the violent fits of coughing, which were set up whenever an attempt was made to turn him on his back, and because his weak condition did not allow him to sit up. The respiratory movements of the left side of the chest were observed not to take place at all. Vocal fremitus was absent from almost all the left side both in front and behind, and vocal resonance was much diminished as compared with the right side. The percussion note of the whole left front, except a small region at the apex, was absolutely dull, so that the cardiac area could not be delimited from the left pulmonary region. Further, cardiac dulness was continued for about two inches and a half to the right of the mid-sternum. The left back was also absolutely dull from apex to base. At the right apex in front there was also slight dulness.

Auscultation of the right side of the chest revealed almost normal conditions; but on the left there was an entire absence of respiratory murmur, except at the back, where distant breath sounds were made out, and at the apex in front where also there were weak but distinct breath sounds. Over the presumed base of the heart and down the sternum to and from murmurs, evidently pericardial, were heard.

After admission a blister was applied to the left side, and he was put on a diuretic mixture and on stimulants. He seemed to do pretty well on this treatment during the next day; his pulse became rather better and not quite so rapid, and his breathing seemed somewhat freer; his temperature, which was being taken every three hours, rose to 102·8° at two o'clock on the morning of the 20th.

At about 8 o'clock in the morning of the 21st, his breathing became extremely difficult, and the lividity increased greatly.

On account of the extreme urgency of his condition, it was decided that it would be proper to draw off some fluid from the left pleural cavity. This was accordingly done, Potain's aspirator being used for the operation; 16 ounces of pus were drawn off, when such violent retching and vomiting were set up that the needle was withdrawn. During the day succeeding the performance of paracentesis thoracis, sickness and vomiting continued, and his pulse became very weak and intermittent, but towards evening both pulse and breathing became better than they had been since admission; his temperature now came down to between 99° and 100° , and it did not again rise above 100° . This improved condition of matters, which was in some measure due to the administration of brandy and beef tea by the rectum, continued during the following day; and he then became able to retain some food and stimulant when taken by the mouth.

On the morning of the 23rd his symptoms again became somewhat urgent, *e. g.*, his pulse became small and rapid and his breathing laborious, while lividity became somewhat alarming. Paracentesis was again performed, and 24 ounces of pus were withdrawn. Improvement followed this very soon; respirations numbered 34 in the minute and were more effective, and the pulse numbered 105 in the minute, and although still intermittent it became less so. Changes on percussion, which were noticed in some degree after the first tapping, now became more pronounced. The dulness, which crossed the mid-sternum to the right side for a distance of $2\frac{1}{2}$ in., retracted to about $1\frac{1}{2}$ in. from the middle line, and at the left apex a decided increase in the area with a modified resonant percussion was observed; in this latter region there was also an increased and improved amount of respiratory murmur. Free stimulation was resorted to and the patient gained comparative ease. He sweated profusely on the 22nd and 23rd.

On the 24th of September paracentesis was again performed, and 23 ounces of pus were taken away. After the operation, although his breathing became better, he remained exceedingly weak and required active stimulation. The percussion at the upper part of the left front improved greatly, and the respiratory murmur was pretty well heard—but it was accompanied by some indeterminate râles. Coughing became much aggravated after paracentesis.

During the next few days he did not rally to any perceptible extent; his pulse became weaker and weaker, and was always more or less intermittent; it numbered usually

rather over 100 per minute. His respiration seemed to be better than it formerly was, although it still was somewhat gasping; there were about 40 respirations per minute. His face, however, became extremely livid, and his temperature gradually became subnormal. In fact, the lividity seemed to be out of proportion to the amount of lung which was not acting properly. On account of his very low state, paracentesis was not again essayed; a further indication against performing this was the fact that physical examination did not give evidence that there was any great re-accumulation of fluid in the chest.

He died on the morning of 28th September, and no *post mortem* examination was permitted.

FROM DR. MACLEOD'S WARDS.

CASE OF NERVE STRETCHING IN SCIATICA. [Reported by N. M'L. Clerk, M.B., House Surgeon.]—J. M., blacksmith, æt. 41, came into hospital on the 9th of last May, complaining of severe pain across the sacrum, passing down the back of the right thigh and leg, and stopping just above the external malleolus. He was sent in by Dr. Mitchell, of Renton, Dumbartonshire.

There is nothing noteworthy in his family history. He states that 12 years ago he injured his back while lifting a heavy weight, but completely recovered from the effects of this. In November 1880, he had an attack of rheumatic fever, and has ever since suffered more or less from the pain of which he now complains. His symptoms were much aggravated by exposure to cold and wet on the occasion of the Volunteer Review at Edinburgh on the 25th of August (nine months before admission), and since that time, he has been unable to work. He submitted himself to active treatment of various kinds without much benefit. He applied liniments containing laudanum, belladonna, croton oil, &c.; he used blisters freely. In January of this year he went to Buxton, where, during seven weeks, he was treated by hot baths, blisters, and galvanism, besides having the sciatic nerve pierced (?) on three occasions. He went to the Dunoon Homes last month and had galvano-puncture of the nerve performed, and finally he has come here stating that he has derived no benefit whatever from any treatment hitherto made use of.

In appearance this man looked sallow and shrunken, and had a habitual expression of suffering. He could walk only

with the aid of crutches, and then with much pain and difficulty. His sleep was interfered with, and his general health injured by persistent pain. This pain was most severe in the middle of the thigh and in the calf of the leg, and was immediately aroused by pressure on those points specified by Valleix—viz., over the sacro-iliac synchondrosis, the sacro-sciatic foramen, and behind the trochanter. Pain on pressure behind the head of the fibula or below the malleolus was not so marked.

On the 16th of May the actual cautery was freely applied behind the trochanter of the affected limb, and he was ordered iodide of potassium in doses of ten grains three times a day. This gave him great relief, but as the wounds produced by the cautery healed the pain returned with the same characters and severity as before.

On the 13th of June he was put under chloroform, and Dr. Macleod, after exposing the sciatic nerve, grasped it in his hand, and exerting considerable force pulled it from above downwards, and from below upwards. The wound was then dressed antiseptically.

After this operation he complained of great pain, which he referred entirely to the foot. He also suffered somewhat from constitutional disturbance and general discomfort, being unable to sleep, losing his appetite, and suffering from nausea and sickness. His bowels were obstinately constipated. All these symptoms passed off in three days, during which time his temperature never exceeded 99.4° Fah., except on the evening of the day of operation, when it was 101.2° Fah. He continued to feel pain in the calf of the leg and foot, with some loss of power in the ankle, up to the day of his dismissal (July 7th), but never had the slightest return of the pain in the upper part of his limb.

On the 25th of July he returned to report himself, stating that the pain below the knee was neither constant nor very severe, that he had no pain elsewhere, but he still felt his ankle very weak and could walk only with the aid of a crutch.

On the 25th of September he again came up to report progress, which has been most satisfactory. He walks easily with a staff only and without pain, except after much exercise, and even then the pain is trifling and confined to the ball of the great toe. He has still, however, some numbness in his foot, and the power of flexing the ankle joint is so far impaired that he walks with his toes point-

ing outwards, so as to avoid striking the ground when he raises his foot. His general health is excellent, he has never had any return of pain in the upper part of the limb, and he proposes resuming his work immediately.

A previous case operated on by Dr. Macleod also succeeded well, but as his present condition is not exactly known (he having changed his residence), a report on it will be given at some future time.

EXCISION OF A PORTION OF THE RECTUM FOR MALIGNANT DISEASE.—[Reported by N. M'L. Clerk, M.B., House Surgeon.]—D. M., aged 54, came into hospital on the 4th of July, complaining of loss of power over his sphincter ani, constant pain in the region of the anus, with the passage of considerable quantities of blood. He was sent in by Dr. Cameron of Kilpatrick.

He states that, with the exception of an attack of gastric fever twenty-two years ago, he never suffered from any serious ailment till five years ago. At this time he believes that he suffered from some affection of the liver, accompanied by extreme constipation, and followed by a very costive habit which persisted till a year ago, when it gave place to an exactly opposite condition. He now had a frequent desire to go to stool, and when there suffered great pain. He noticed, too, that his motions were frequently streaked with blood and slimy matter. His condition became gradually worse, till latterly he lost control over his bowels entirely, and there was an almost constant discharge of blood and slime from his anus. He also complains of a persistent burning pain confined to the immediate neighbourhood of the anus, and not extending to the back or sacrum. Some difficulty in micturating is also suffered from. He says he has lost flesh and strength during the last year, and this statement is borne out by his appearance—his countenance is pale and haggard, his expression one of pain, and he walks with a feeble gait in a stooping attitude. He says he has never had any venereal disease nor has he suffered from piles. On examining the rectum the finger readily detects round hard masses occupying nearly the entire circumference of the bowel and situated close to the anus. They are placed below the mucous membrane, which is smooth and unaffected over them with the exception of one minute ulcerated spot. There are no piles.

After being treated for a fortnight with the view of somewhat improving his general condition his bowels were, on the 19th July, cleared out by purgatives and an enema, and on the following day Dr. Macleod proceeded to remove the disease

by operation. After chloroform had been administered the bladder was injected with water in order to raise the reflection of the peritoneum, and the catheter, having been plugged, was retained in the urethra. The patient was then put in the lithotomy position, and an incision was made through the skin, beginning at a point in the raphe about an inch in front of the anus, curving backwards close to its margin and terminating at a point in the middle line midway between it and the coccyx. The extremities of this incision were joined by one of similar shape passing on the opposite side of the anus. By means of the handle of the knife, the finger, and scissors, the bowel was now freed from its connections all round. The posterior attachments were most freely dealt with, the bowel being raised from the hollow of the sacrum to a distance of about five inches. Special caution was observed during the dissection on the side towards the bladder, the finger alone being used while a finger of the other hand was kept in the bowel.

The hæmorrhage was at no time violent, and only two vessels required ligature from first to last. No difficulty was experienced in pulling down the bowel after division of its attachments. The prostate gland and lower part of the bladder were plainly visible at the bottom of the wound.

It was found that the disease could be completely removed, and this was accomplished by means of the ecraseur. The portion of bowel above the line of separation was held by a hook, though there was no apparent tendency to retract, and finally it was stitched to the skin.

The surface of the wound was carefully swabbed out with a solution of chloride of zinc (grs. 40 to 3j) and the lips united in front and behind by metal sutures, drainage being carefully provided for by means of tubes. A full opiate was administered, and the patient was put to bed.

He was ordered to be kept strictly on milk diet and to have *m*x Battley's solution of opium night and morning, but this quantity proving insufficient for stopping all action of the bowels, was doubled next day. Every effort was made to keep the wound perfectly clean by syringing it out night and morning, and afterwards three times a day with a solution of carbolic acid (1 to 40). On the second day after the operation the stitches were found to have nearly all given way, but the surface of the wound looked perfectly clean and healthy. He complained of no general disturbance whatever, nor of any pain at the seat of operation. His

temperature rose slightly, reaching 102° on one occasion on the 22nd, and again on the 24th, but being, with these exceptions, nearly normal throughout. On the 24th he perspired a little, and was ordered quinine in doses of six grains night and morning, with three ounces of sherry daily.

On the 26th the tube was removed, his opium was stopped, and he was ordered to have full meat diet with 3 oz. sherry.

From this time forwards he made rapid progress towards recovery, the wound continuing to close up with healthy granulations, and his control over the bowel, though limited, was not by any means lost.

When he was dismissed on the 22nd August he had gained flesh and felt stronger than he had done for some time, and he had so much control over his evacuations that at no time did they pass involuntarily, though there was a slight discharge from the anus which he could not prevent.

On the 5th of September he came back to report himself. His general appearance was remarkably changed for the better. He walked upright, his complexion was ruddy, and he professed himself strong and well. On examining the anus the aperture was found to be little larger than normal, and was lined by smooth, healthy tissue. He stated that once a day he went to stool and had a full and natural motion of his bowels, with complete control over the act. During the day there was a slight discharge from the anus, not exceeding an ounce in the 24 hours. He had no feeling of pain or scalding when at stool, nor were his bowels at all unnaturally costive.

Dr. Macleod has more lately had another very similar case which has been so far quite as promising as the above. The patient was operated on on 4th September, and has never been disturbed by the proceeding. The wound is nearly healed, and his general health has been greatly restored.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1882-83.

MEETING I.—6TH OCTOBER, 1882.

DR. GEO. BUCHANAN, *President, in the Chair.*

The following were elected office-bearers for the Session :—

President—DR. W. T. GAIRDNER.

Vice-Presidents—DR. ROBERT GRIEVE, DR. ALEX. ROBERTSON.

Council.

DR. GEORGE MATHER.

DR. H. C. CAMERON.

DR. ROBERT W. FORREST.

DR. LAPRAIK.

DR. D. MACLEAN.

DR. J. C. WOODBURN.

DR. W. WHITELAW, Kirkintilloch.

DR. W. A. WILSON, Greenock.

Secretaries—DR. W. L. REID, DR. J. W. ANDERSON.

Treasurer—DR. HUGH THOMSON.

DR. GAIRDNER, in a short address, thanked the members for the honour they had conferred on him in electing him President of this important Society. In regard to the spirit in which he would endeavour to fulfil the duties of the office he need say little. They were all aware of the interest he had taken in the Society for many years, and if, latterly, that interest may have abated in appearance, he could only plead the indolence of advancing years and the pressure of other cares. And it was beyond doubt that the work of such a Society must, to a large extent, be carried on by the younger members. It was to men who had still their way to make, and whose struggle was accompanied by the superfluity of exertion natural to their age, that they must chiefly look for keeping the position of the Society as an organ of advancing medical science. And yet it was just these young men who most required a word of guidance and caution, and also of encouragement such as might fitly proceed from the President's chair. A Society like this necessarily had its periods of great activity and great exuberance of animation, and also its periods of quiescence, and what some would call decline. A good many years ago they had many heated debates, and, as a consequence, crowded meetings, and what appeared the manifestations of a vigorous vitality. And yet he could not help thinking that the real outcome of such periods of excitement was injurious rather than otherwise.

At all events he was impressed with the conviction that the real work of such a Society was not best effected under conditions of artificial stimulation. They must remember that the work of such an association was different from that of a debating society, and he would strongly impress this view, especially on the younger members, in whose ears, it might be, the echoes of the oratory of the University debating societies were still ringing. To these he would say, the debates of this Society *meant business*. Their object was not display, but to increase the sum of their knowledge of the healing art. Every member should, therefore, be extremely careful to maintain such a tone as will contribute to the effecting of that object. They were all familiar with ecclesiastical debates which generally centred round principles supposed to be of importance at the moment. But it was the peculiar snare of the discussions in medical societies that they often tended to take a personal form, arranging themselves round the likes and dislikes of particular persons rather than round principles. This was what not unfrequently happened. A man found out a new remedy or a new application of an old remedy, and naturally taking some credit to himself he brings it before his Society. This was highly honourable, and much preferable to bringing the matter before the public in irregular and improper ways. It was perfectly natural that he should be so highly enamoured of his own discovery as to suppose that no view but his own can be correct, and this he enunciates with the dogmatism of conviction. This arouses into action the dormant original sin of some one of his hearers, who gets up and makes a speech impeaching the originality or the value of the discovery. The heat of the attack is out of proportion to the supposed offence. The man who made the discovery is bound to stick to it, and looks on himself as an ill-used individual. He must adhere to what he has advanced. Like Dr. Sangrado in *Gil Blas* he in effect says "*J'ai fait mon livre.*" The general influence of all this as regards the Society was malign instead of good. He trusted that the members of the Society would exercise forbearance, and be careful in keeping down the personal element in their discussions. It was always possible, and indeed easy, to express opposition or disapproval in a manner essentially courteous, and which would not wound the susceptibilities of the person whose views were criticised.

DR. H. C. CAMERON read NOTES OF SOME CASES OF UNUSUAL SURGICAL DISEASES AND ACCIDENTS.

CASE I.—*Gouty Tumour of Penis*.—This was the case of a

gentleman who consulted Dr. Cameron in October, 1879. He was sent to him by a medical friend, and his opinion asked on the question of whether a very hard little tumour which existed in the penis might be of a malignant character. It was situated between the dorsal and right lateral aspects of the organ, and about an inch from the pubes. It caused no pain, except during erection, when there was always severe pain in the part, and the penis became distorted and bent at a sharp angle.

Dr. Cameron recognised here a disease which he had once before seen; although he did not appreciate its character until some time after, when he read an account of it in Van Buren's *Surgical Diseases of the Genito-urinary Organs*, under the name of "Chronic Circumscribed Inflammation of the Erectile Tissue of the Corpora Cavernosa." A further interest attached to this particular case, as the patient also suffered from the common hard little fibrous tumour or knot of the palmar fascia. This existed in one hand, causing flexion of a finger. This led Dr. Cameron to the conclusion that, as this condition of the palm of the hand is usually recognised to be associated with gout in the individual or his family, the exactly analogous tumour in the fibrous sheath of the corpus cavernosum probably had a similar origin. The patient had also been treated for "rheumatic gout" of one elbow.

Paget refers in an article on "Gouty Affections of the Urinary Organs," to the great similarity and probably common origin in a gouty diathesis of these two ailments. It is an interesting corroboration of this opinion to find both existing in the same man.

CASE II.—*Case of Hydrocele containing Milky Fluid.*—A gentleman, resident in India for a number of years, became affected with double hydrocele. He was twice operated on unsuccessfully, but after his return to England, and three months after the last operation, that on the right side was absorbed, and disappeared. He consulted Dr. Cameron in regard to the other in February, 1879. On tapping it, he found the fluid to be exactly like a specimen of cow's milk slightly diluted with water. On microscopical examination the whiteness was found to be entirely due to the presence of fat, and chemical analysis further revealed the presence of some albumen and a trace of sugar. When allowed to stand it became slightly denser in the upper part. Curling refers to this rare condition of hydrocele fluid, and refers to several cases put on record by various authors.

CASE III.—*Case of Large Spermatocoele.*—By way of contrast

to the last case, notes were read of an instance of large encysted hydrocele of the epididymis. It occurred in a man 58 years of age, and the fluid measured 46 fluid ounces. It was turbid and opalescent in character (like cocoa-nut milk), and a drop, when placed under the microscope, was seen to teem with very perfectly formed spermatozoa. By the next day, having been left at rest, it had separated into a thick whitish sediment, with a comparatively clear supernatant liquor.

Both of these cases got quite well after injection with tincture of iodine.

CASE IV.—*Stab in the Neck by which the Right Hypo-glossal Nerve was Divided.*—A woman, who had been deeply stabbed with a pen knife on the right side of the neck, was found to have a paralytic affection of the tongue. It was protruded to the right side, and its right half had a flabby appearance, being deeply wrinkled transversely. It could be moved in all directions, but imperfectly to the left. The tactile sense was perfect, and the sense of taste for sugar, hydrochloric acid, and quinine seemed unimpaired. She had a little difficulty in swallowing. She died from other causes, and on *post mortem* examination it was found that the hypo-glossal nerve had been divided just internal to the bifurcation of the carotid artery. The ends of the cut nerve were bulbous and slightly retracted. Microscopic examination showed fatty degeneration of the distal end of the cut nerve, and of the muscles of that half of the tongue supplied by the nerve.

CASE V.—*Case of Acquired Talipes.*—A little boy was admitted into the Western Infirmary last spring with a fairly well marked talipes equino-varus. It seemed that a year or two before he had trodden on a nail, which caused a very painful and tedious sore on the heel. For six months he walked on the outer border of his foot in consequence, and then was found to be unable (when the sore healed) to re-acquire the habit of putting his foot flat to the ground. Dr. Cameron read similar cases detailed by Scarpa in his work *On Club Foot*. He also referred to a case published by Mr. John Macdonald in the *Lancet* of April, 1878, which illustrates a converse occurrence. A little boy, the subject of congenital equino-varus, trod upon a nail and injured the foot just where the pressure was greatest when he stood. Being active and restless, he moved about, and by degrees learned to place the foot more and more to the ground, until ultimately a complete cure of the deformity took place.

Dr. Cameron also read notes of cases of dislocation of the semi-lunar bone of the carpus, and of the radius backwards. He also detailed an interesting case of fracture of the base of the skull, in a very old man, in which cerebro-spinal fluid escaped, in considerable quantity, from the nose.

Dr. George Buchanan said that the paper was a succinct and admirably stated account of several cases of uncommon occurrence of much interest to every surgeon. In regard to the case of dislocation he was of opinion that the bone exhibited, which, being contained in a covered bottle, he could not properly examine, was not the scaphoid. Certainly it was not the whole scaphoid, though it might be the half of it; but it looked more like the semi-lunar. The case of talipes was of interest in showing how much help the patient could be to the surgeon. In the primary stage the cure was comparatively easy; but unless the surgeon can observe the case for months, and also secure that the parent will take the trouble to keep up the good effected at first, his labour might be lost. If the patient would turn out his toe he would immensely help the cure. In many cases there was to a certain extent a condition of atony, in which the tendency was for the foot to fall in, and great care was necessary to prevent it. There was, however, now a special apparatus, consisting of a spiral wire which had been invented to keep the foot in position, and which had great advantage over the ordinary boot.

Mr. Henry E. Clark said that he had had a case of induration of the penis, of the same character as that described by Dr. Cameron. It puzzled him much; and it was not till he had read Sir James Paget's lecture that light was thrown on the case. He had not ascertained that the patient had suffered from gout. He agreed with Dr. Buchanan that the bone exhibited was not the whole scaphoid, and that it was probably the semi-lunar; this, however, was a supposition which must be verified by proper examination.

Dr. Macphée gave some details of a case of disease of the corpus spongiosum, somewhat similar to that described by Dr. Cameron.

Dr. Johnston Macfie described a case of affection of the penis which he had seen similar to that of Dr. Cameron. It occasioned the man no trouble except when the organ was erected, and the angle which it then formed was what alarmed the patient. It would be interesting to know whether in the case of the escape of cerebro-spinal fluid from the nostrils and ears the recovery of hearing was complete.

Dr. Cameron, in reply, said that to him the interest of the case of affection of the penis lay in the coincidence in the same individual of chronic fibrous tumours of the palm of the hand and the analogous tumours in the penis. He had never seen a similar tumour of the corpus spongiosum; but he had occasionally been consulted by a foreigner with a tumour of the corpus spongiosum after gonorrhœa, which gave him excruciating pain on erection. He had consulted many German surgeons without benefit. Mr. Lister had performed external urethrotomy in the case also without effect, and at the operation he had suffered much from hæmorrhage.

M E D I C A L I T E M S.

UNDER THE DIRECTION OF

ALEX. NAPIER, M.D.

Nerve Stretching, especially in Locomotor Ataxy.—A number of cases of nerve-stretching, taken from various sources, are summarised in the *Cbl. f. d. Med. Wiss.*, No. 17, 1882.

(1.) In a patient who had long suffered from locomotor ataxy, both sciatic nerves were stretched by Dr. C. Elias (*Breslauer ärztl. Ztschr.*, No. 21, 1881), on account of the painful cramps of right leg and the anæsthesia in both. Result, favourable as regards cramp and sensibility, but the ataxia remained unaltered, while the muscular spasms began to return. Nerve stretching is recommended as a merely symptomatic remedial agent.

(2.) Dr. Berger (*Ibidem*, No. 19) holds that there is a form of *spinal ataxy* (*pseudo-tabes*) which is not due to a coarse anatomical lesion, in which accordingly a complete cure is quite possible. Real remissions in the course of *tabes dorsalis* are also sometimes noticed, the sensibility of the skin and the patellar tendon reflex returning. Though certain symptoms may be relieved by nerve-stretching, yet cure is impossible in genuine *tabes*. The operation is not without danger; the author adds one fatal case to the list.

(3.) Chvostek (*Wiener Med. Blätter*, 43 and 44, 1881) stretched both sciatic nerves in a man of 46, to relieve the condition of tonic spasm in the lower extremities, and other

symptoms. After the first operation on the right nerve the tonic spasm and tremor entirely disappeared on that side, and were much improved on left. The left nerve was stretched $4\frac{1}{2}$ weeks later. Improvement lasted 3 months, but then the symptoms began to return.

(4.) P. Hessler (*Zur Casuistik der Nervendehnung*.—*Berliner Diss.*, 1881) enumerates the various published cases of nerve-stretching, and records a case of severe pain in the domain of the lingual nerve, treated in Langenbeck's Klinik by stretching that nerve, this structure having been laid bare by an incision. Result: after operation, anæsthesia of corresponding half of tongue; disappearance of pain, which had not returned after the lapse of eight weeks.

(5.) B. Nocht (*Ueber die Erfolge der Nervendehnung*.—*Diss. Berlin.*, 1881) also reviews the literature of this subject. He mentions 60 cases of neuralgia treated by nerve-stretching. Of these, 24 were cases of sciatica; 21 were cured, the relief being instant and permanent in 16. One case ended in death. There had been 17 operations for trigeminal neuralgia; in 10 relief was immediate and lasting; 5 were cured subsequently, one by a second nerve-stretching; in two cases there was no relief; in two there was relapse, cured in the one instance by nerve-stretching at another point, and in the other spontaneously. Of traumatic neuralgias treated in this way the author mentions 15, with a good result in 10 cases. He states that "this operation is to be recommended in all cases of neuralgia in which internal remedies and electrical treatment have failed; the stretching, in purely sensory nerves, may be made with very considerable force." Among motor affections, 8 cases of nerve-stretching for convulsive tic of the facial nerve are mentioned; in 7 the spasms ceased, but in 6 there was paralysis after the operation, disappearing only after months had elapsed. The operation has been performed in various other motor affections, but not with very marked success. Statistics of the operation in this connection, however, are meagre, but it is certain that here the operation is not so striking in its results, relapses are frequent, and the paralysis resulting from the stretching is a serious drawback. In 28 cases of tetanus so treated, the cure could be attributed to the operation in only 4, while in three cases there was absolutely no result. Ten cases of undoubted *tabes dorsalis* are given. In 2 the operation caused death; in other two the healing of the wound was interrupted by changes of sufficient gravity to place life in danger. In 2 cases recorded here for the first time there was no result

from the operation. It is the pain in these cases which is most markedly relieved. In other spinal complaints the results are even less satisfactory (in myelitis transversa, multiple sclerosis, paralysis agitans). The author concludes that in motor affections, and in diseases of the central nervous apparatus, the exact therapeutic value of this operation cannot yet be determined; so far, it seems to be simply a symptomatic remedial procedure, and one not devoid of danger, in such cases.

(6.) P. Möbius and H. Tillmanns (*Cbl. f. Nervenheilk.*, 1881, No. 23), stretched both sciatic nerves in a man of 43, suffering from tabes. This was followed by no essential change in the patient's condition.

(7.) D. Kuhlenkampff (*Berl. Klin. Wochenschr.*, 1881, No. 48) speaks unfavourably of the operation. He stretched both sciatic nerves in a male patient suffering from tabes. Result: death from exhaustion. Immediately after the operation there was extremely acute pain, scarcely relieved by morphia injections, followed by vesical catarrh leading to ulceration of the bladder.

(8.) Dr. v. Hoffman (*Arch. f. Psych.*, xii, p. 259), records two cases of facial neuralgia treated by nerve stretching. In the first case, that of a patient aged 44, the infra-orbital nerve had been divided two years before, without relief. Stretching of the same nerve abolished the pain and gave rise to marked anæsthesia. The pain then appeared in the region supplied by the inferior maxillary nerve, which nerve was then stretched and torn; during the next few days the pain increased till it was almost insupportable, and it did not subside till the wound had healed, two weeks later. There was no relapse at the end of four months. The second patient, a lady of 35, suffered from convulsive tic on the right side. The infra-orbital nerve was stretched, as pressure on it arrested the spasm of the facial muscles; the nerve gave way, and $2\frac{1}{2}$ ctm. of it were excised. As the pain only became worse than ever the facial nerve itself was stretched, only the branches for the eye, the nose, and upper lip being operated on, and not the deeper branches for the lower lip and platysma, as the muscles to which they were supplied were still convulsed after the operation. There followed a paresis of the muscles connected with the stretched nerve branches, which, however, had been noticed before the operation, in the intervals between the spasms. As regards the actual result or its duration, the author is silent.

(9.) B. Auerbach (*Deutsche Med. Wochenschr.*, 1881, No. 3)

stretched the right median and ulnar nerves in the axilla of a lady, aged 40, suffering from tremor, weakness, and pain in the arms, occurring after a fright. Gradual improvement took place, but the cure was not complete.

(10.) Spencer's case of well marked locomotor ataxy (*British Medical Journal*, 28th January, 1882) is then summarised. In it the left sciatic nerve was stretched with great force; this was followed by considerable temporary improvement, but four weeks afterwards the patient's condition was the same as before operation.

Treatment of Enteric Fever by Salicylic Acid.—In the treatment of enteric fever M. Vulpian has employed various antiseptics, and the results of his experience he laid before the *Académie de Médecine* in August last. Iodoform proved of no value. The salicylate of bismuth, though an excellent antiseptic, possessed many disadvantages; it is insoluble, and the dose required (150 to 180 grains daily) frequently gave rise to such ill effects as dyspnoea and hæmorrhages. Boracic acid (up to 180 grains daily) had little effect. With salicylic acid he obtained good results. M. Vulpian employed this acid in doses of from 3 to 5 grains every half-hour. In some cases, especially in young patients, there was a little delirium, a cerebral salicylism; in others there was some albuminuria, but most frequently the albuminuria was present before treatment, and he noted that the albuminuria disappeared when the dose of the acid was increased. Under this treatment the temperature was lowered in 48 hours from 5° to 7° F., the fall of temperature being more persistent than that caused by carbolic acid. At the same time a very marked improvement of the general condition took place, especially in severe cases. These effects of salicylic acid do not last long. M. Vulpian does not pretend that the duration of the disease or its mortality is diminished; his experience has been too limited for such a conclusion. But he believes that salicylic acid is the most energetic remedy we possess for moderating enteric fever. That it was really the acid which caused the lowering of temperature he convinced himself by interrupting its exhibition, and he also found that its action is prolonged into the stage of convalescence if the remedy be continued. He propounds the question, whether the acid might not be used as a prophylactic against enteric fever. It has been proved to have but little toxic action, and it can be readily administered, as in his cases, in bread. In the discussion which followed the reading of M. Vulpian's paper, the opinion was expressed that

salicylic acid, though it lowers the temperature, has no effect on the disease; this was confuted by M. Vulpian. It was also elicited that French physicians are giving up their treatment of this fever by early purgation.—*La France Médicale*. August, 1882.—G. S. M.

The Treatment of Severe Gastro-Enteric Fever in Children.—In the *Nordesk. Med. Archiv*, the first number for 1882, Dr. Kjellberg has an article on the treatment of typhoid fever in childhood. The treatment in some cases is difficult on account of the great irritability of the stomach, and the frequent and violent vomiting which causes the child to reject all it takes, including its medicines.

The principal indication, according to the author, is to seek to relieve this vomiting, and he strongly urges the employment for this purpose of the hydrate of chloral. It is rapidly absorbed, arrests the vomiting, renders the infant calm, and checks the diarrhœa. He gives the chloral by the rectum after a stool. The dose is 0.25 to 0.30 gramme for a child 5 to 6 months old, and 0.50 to 0.60 for one 12 to 15 months. The amount of fluid used as a vehicle should be small. He repeats the injections two or three times a day, and increases the dose if necessary. One may also employ at the same time, brandy, champagne, opium, &c., according to symptoms.—*Lyon Médical*. 6th August, 1882.—J. A. A.

Micro-Organisms in Enteric Fever.—Prof. E. Maragliano, of Genoa, has found in blood taken from the spleen, and from the general circulation of living typhoid patients, the same micro-organisms discovered by Eberth and Klebs, and others, in the tissues of those who had died of that disease. The splenic blood was withdrawn by a hypodermic syringe, the needle of which was plunged directly into the organ; from the general circulation the blood was taken from the point of the finger. It is found that at the acme of the disease the blood of the general circulation contains micro-organisms, isolated and in groups. These consist of round homogeneous bodies, which have a delicate outline, and are analogous to micrococci. In the splenic blood there were seen not only the spheroidal bodies described, but also other rod-shaped bodies, thin and with a delicate outline, exactly resembling those discovered by Eberth and Klebs; few of these occur in proportion to the number of spheroidal bodies. During convalescence all these micro-organisms disappear from the blood; and in the cases of patients who were treated with

quinine salts in large doses, they were either absent or found in very small numbers. The author has also isolated the rod-shaped bodies by the method of fractional culture. He abstains in the meantime from drawing any conclusions, from these observations, regarding the pathogenesis of enteric fever.—*Cbl. f. d. Med. Wiss.* 14th October, 1882.

Typhoid Fever in Paris (1875 to 1882). In a paper presented to the *Académie de Médecine* M. le Dr. de Pietra Santa, after asserting his disbelief in the English doctrine of the simplicity and unicity of the typhoid poison, goes on to state the leading facts which have resulted from a minute examination of statistics furnished him by the boards of health of the various capitals of Europe:—

1. The existence in all the great centres of population of a fever which possesses a special and characteristic physiognomy—the typhoid state.

2. The outbreak at various periods (between July and November) of the disease, which is everywhere endemic, so as to assume the characters of an epidemic.

3. The constant and progressive diminution of the endemic condition, in number and in severity of cases, in proportion as drainage and general hygiene have been well developed. (London, Turin, Munich, &c.)

In Paris, within recent years, typhoid fever has been increasing alarmingly. The proportion of deaths from typhoid fever to deaths from all causes, which was 1·90 per cent from 1865 to 1867, had risen in 1875 to 2·30 per cent; in 1876 to 4·08 per cent; and in the first half of 1882 to 4·60 per cent.

The medical statistics of Paris show:—

1. That it is regularly in the months of August and November that typhoid fever causes most deaths.

2. That the distribution of the fever is unequal in the different wards of the city.

3. That there does not exist a direct and constant relation between the number of deaths from enteric fever and the numbers of the population of the ward, its superficies, the density of the population, and the general mortality.

The general conclusion to which his statistics have led him is, that it is impossible by clinical observation to demonstrate that typhoid fever has a single cause of fæcal origin, as affirmed by the English school.—*La France Médicale.* 7th September, 1882.—G. S. M.

Strychnia in Dilatation of the Heart.—Prof. E. Maragliano, in a very short article (*Cbl. f. d. Med. Wiss.*, 14th October, 1882) states that he has carefully watched cases of this affection, the heart's outline being defined by percussion and marked with nitrate of silver, and that great improvement is soon manifest in them under the use of strychnia internally. He concludes (1) that one to two days after the administration of strychnia the dilatation begins to decrease, so that in 5 to 6 days very considerable dilatation disappears; and (2) that if the drug be withdrawn as soon as this result is achieved the dilatation often returns; and (3) to obtain these good results 2 to 3 mgrm. of sulphate of strychnia are sufficient.

Excision of a Chancre Twelve Hours after its Appearance.—The initial lesion appeared 28 days after the contagion in the form of a little lenticular papule on the internal surface of the prepuce. There, however, already existed an engorgement of the inguinal glands, provoked, it was thought, by the application of pretended preventives.

The excision was made 12 hours after the typical sore appeared. The wound took 25 days to heal, the roseolar syphilitic rash manifested itself 48 days after the excision and 72 after the infecting coition.—(*Centralbl. f. Chir.*, 15th June, 1882.) *Lyon Médical.* 20th August, 1882.—J. A. A.

Oil of Peppermint in Zona.—Dr. Meredith writes:—"I have found the oleum menthæ pip. more effective than any other form of anodyne application I have tried in allaying the neuralgic pains so often piteously complained of in cases of herpes zoster. These distressing pains—worse in elderly people—are complained of often when the eruption has disappeared; but painting the affected parts over with oleum menthæ pip. nearly always affords speedy relief. I have painted the oil over the eruption when it was out in a fresh florid condition, and that with great relief to the patient. The value of this application in pains of neuralgic character deserves to be better known than it is."—*Birmingham Medical Review.* June, 1882.

Naphthalin as an Antiseptic.—Owing to the occasional startling constitutional effects produced by the topical application of iodoform, attempts have been made in various directions to discover some antiseptic which would be as useful as that drug, but be free from its disadvantages. Fischer (Strasburg)

claims that he has found such an antiseptic in naphthalin, and has written articles on its use in the *Berliner Klin. Wochenschr.* 1881, No. 48, and 1882, Nos. 8 and 9; and Auschütz has one in the *Centralbl. f. Chir.* 1882, No. 32. Fischer read a paper on the subject before the German Medical Congress, reported in a supplement to the *Centralbl.*, 1882, No. 29.

Pure naphthalin occurs in pearly white crystalline plates, and has a specific gravity of 1.1, is somewhat volatile, and melts at 79.2° C. and is sublimed at 150° C. It is quite insoluble in water or wound secretions, and even when given internally is only absorbed in very small quantity. It appears in the urine, when so administered, as naphthalin, and can be separated from that and other secretions by distillation, as it is carried over with the watery vapour and settles down in its crystalline form as the vapour is condensed. It is insoluble in alkalies or weak acids, but dissolves freely in ether, absolute alcohol, or fixed or volatile oils. As met with in commerce it often has a rosy tint, which is due to the presence of carbolic acid. This impurity may be detected by the following test:—Boil 10.15 grm. with a little water to which a drop of caustic soda solution has been added, cool and filter. If carbolic acid is present the addition of bromine water to the filtrate, slightly acidulated, produces either opalescence or a milky precipitate according to the quantity present.

Naphthalin is available for all the purposes to which iodoform has been applied, and as yet no constitutional effects have been observed to follow its use locally. It is as powerful an antiseptic and “antibacteric” as iodoform, and has a less disagreeable smell. Its application causes a slight transitory sensation of heat, but no pain. Auschütz states that very sensitive granulations sometimes bleed rather freely after it has been applied, owing to the sharp angles of the hard crystal. This can be obviated by using it in fine powder, though if there is much discharge it is then apt to form a crust on the surface of the granulations. When the crystalline form is used the discharges escape freely.

It may also prove useful as a general disinfectant, as it is cheap, not very volatile at ordinary temperatures, and not hygroscopic. In all parasitic skin diseases, especially in itch (v. Fürbringer in *Berlin. Klin. Wochenschr.*, 1882, No. 10), it has proved of considerable value, and Fischer suggests that it may be used to free domestic animals and plants from the attacks of parasites of all kinds.

It can be readily manufactured in large quantity and at small cost. A firm in Kehl, Baden (Ohlgardt & Cie.), supply

it pure at the rate of 1 mk. per kilo., less than sixpence per pound.

Besides the powder the following preparations have been employed:—

Ethereal solution, 10 per cent, for injection, and also solution in oils, for injection or external application in skin affections. Ointments of various strengths can be made with lard or vaseline, and bougies with cacao-butter.

Bandages, made by sprinkling or rubbing the powder into muslin, and then moistening with water.

Gauze, made by dipping into a solution of 1 part of naphthaline in 4 of ether and 12 of alcohol (Fischer).

Naphthalin jute, 1 kilo. of compressed jute steeped in a solution of 100 grm. naphthalin in 400 grm. each of ether and alcohol, and then dried, makes a beautiful silky, white, absorbent dressing (Auschütz).—*Centralbl. f. Chir.*, 1882, Nos. 11, 16, Supplement to 29, and 32.—D. M'P.

Malassez on Staining Bacteria.—M. Malassez (*Le Progrès Médical*, No. 27, 1882) gives the following hints. He says the best methyl violet is that marked BBBBB, though Weigert's gentian violet is perhaps better. The solution should be one per mille. Tissues should be hardened in alcohol or in picric acid, but must be washed in distilled water, especially in the latter case. The sections must be placed in the violet solution, and left in it for twenty-four hours; bacteria will not form in the solution. They must then be washed in a two per cent solution of carbonate of soda, in which they should be left at least a quarter of an hour, and then washed in water to remove the excess of soda. They are then dehydrated in alcohol, cleared with oil of cloves, and mounted in Canada balsam. As both the alcohol and the oil of cloves dissolve the violet they must not be left in too long, and the excess of oil must be removed by blotting paper. The Canada balsam must not be dissolved in chloroform or any essential oil, as these would completely decolorise the bacteria. If it is wished to stain the tissues with carmine, this must be done first, and then, having washed them with water, follow out the same series of operations. Liquids must be dried in thin layers on the object glasses, and these layers must be fixed by washing them with an alcoholic solution of chromic acid (one per cent), or by exposing them to the fumes of osmic acid, and washing, after which the proceedings are the same.—*Birmingham Medical Review*. October, 1882.

The Presence of the Micrococcus in the blood of Malignant Measles: its importance in Treatment.—A paper with this title was read before the Philadelphia College of Physicians, on 7th June, by Dr. Keating. The epidemic of measles occurred in the Children's Asylum of the Philadelphia Hospital, under the charge of Dr. Keating, assisted by Dr. Campbell, resident physician. The *post mortems* were made and recorded by Dr. Edward, and the microscopic observations by Dr. Formad. In the first part of the paper clinical details of several cases were very fully given; of the second part the following is an abbreviated transcription:—

Special attention was called to—*first*—The microscopic examination of the blood, showing the constant association of the presence of micrococci with general manifestations of malignancy; and *second*—The gradual but positive amelioration of all bad symptoms by treatment directed to the micrococci as the *fons et origo* of trouble.

The mode of death was peculiar: the fatal signs came on suddenly, and with frightful intensity, the gasping breathing, the frantic efforts to obtain air, the imploring look, with consciousness not impaired, seemingly unduly acute, until the final convulsion or gradual cyanosis brought the end. The turgid veins, the occasional venous engorgement, the feeble pulse, and the fluttering heart pointed unmistakably to gradually forming right-sided heart clot, and the *post mortem* proved its presence. One of the earliest symptoms of this impending danger was unduly rapid respiration with a peculiar gasping, fish-like character.

The moment symptoms of malignancy appeared the examination of the blood showed abundant micrococci in the plasma, and in the white corpuscles. These, by mechanically retarding capillary circulation, promote the formation of clot, especially in the right heart, and multiply with great rapidity in the clot so formed. They also multiply rapidly in the white blood corpuscles, and cause their destruction by rupture, thus destroying the respiratory and nutritive qualities of the blood.

Dr. Formad had found by culture experiments with micrococci of diphtheria, &c.; that the development of these organisms was checked more effectually by alcohol than by any other agent. Whisky was accordingly given freely in frequent small doses in the malignant cases, with great benefit. Dr. Keating concludes thus:—"The micrococcus is found in the contents of pustules and vesicles, and also

in the blood taken from the measles' papule in ordinary mild cases, without its being present in the blood taken from the punctured finger. In seven cases, called malignant in this paper, owing to the rapid appearance of morbid symptoms, the blood showed early in the attack numerous patches of micrococcus in the field.

"In cases of rapid sthenic disease, with high temperature and great tissue change, the evidences of large quantities of fibrine, with a tendency to coagulation, are manifest. The rapid production of micrococci soon gives the mechanical impediment, and if stasis takes place from any other impediment to the circulation, clots rapidly form.

"The non-appearance of clot in malignant fevers, attended with fluid blood, such as low forms of typhus, diphtheria, &c., is simply due to the fact that rapid tissue changes have resulted in decomposition instead of the production of fibrine forming substances—no fibrine is formed, hence no clots—but the micrococci are present all the same. These cases are held up by some to be the malignant ones, but I think the *foudroyante* character of the others just mentioned entitles them to be placed in the same category.

"But the micrococcus, if left unheeded, may attack the white corpuscle, as distinctly seen under the microscope, and destroy its contents. The red cells also change in appearance, and finally, probably become, to all intents and purposes, useless in the economy. When such a condition is seen by the microscope and found extensive, a fatal prognosis can be given, despite the most active treatment.

"In cases where the white blood cells are as yet unaffected, treatment, when active, will be followed by good results, provided the other complications, as visceral inflammation, &c., are not in themselves excessive.

"*Alcohol* (whisky in our cases) seems in some way, when given in large amounts to check the progress of the marauders, to arrest the process of destruction, and, if needful, can be associated with quinine and iron in small separate doses, digitalis perhaps, and frictions, baths, and poultices, &c. As we have seen, the symptoms presented are contemporary with the changes going on in the blood; they may, in lieu of a careful microscopic examination of the blood, be taken as a gauge for treatment; knowing what can and will take place, early active treatment will give the patient some chance for the future."—*Boston Med. and Surg. Journal*. 3rd August, 1882.—D. M.P.

Chronic Interstitial Hepatitis.—From numerous experiments Dr. Maffucci has formulated the following statements:—

(1.) Hepatic cirrhosis is always situated in the tissues surrounding the portal vein.

(2.) The periphlebitis is produced by the presence of chemicals or virulent poisons in the blood circulating through the vein.

(3.) The inflammatory process is similar to that which is observed in all the other organs; it is characterised by hyperæmia with migration of leucocytes, and by the organisation of the exudations.

(4.) The periphlebitis is perfectly distinct from the interstitial inflammation of the liver provoked by the presence of biliary calculi.

(5.) The serious affection of the nutrition of the hepatic arteries determines the necrobiosis of the liver.

(6.) The interstitial alterations of the liver provoked by the arterial lesions are very different from those caused by the periphlebitis.—(*Il Movimento, Giorn. del Scien. Med.*, 1882, No. 2.) *Lyon Médical*. 3rd Sept., 1882.—J. A. A.

How to Make a Poultice.—Dr. T. Lauder Brunton gives the following hints regarding the making and application of poultices. He says that “in order to relieve spasm, as in colic—intestinal, biliary, or renal; to relieve inflammation of the pleura, the lungs, the liver, or other organs, we want to apply the poultice as hot as possible, while we protect the skin from being scalded.

“In order to do this, a flannel bag should be prepared, a convenient size being twelve inches by eight; this should be closed at three edges and open at the fourth; one side of it should be about one inch or one inch and a half longer than the other, and it is convenient also to have four tapes attached at the points which form the corners when the bag is closed, in order to keep the poultice in position. Besides this, another strip of flannel should be prepared of the same breadth as the length of the bag, and long enough to wrap round it once or oftener. Crushed linseed, bowl, and spoon should then be got together, and the spoon and bowl thoroughly heated by means of boiling water. The poultice should then be made with perfectly boiling water, and rather soft. As soon as it is ready, it should be poured into the bag, previously warmed by holding it before the fire; the flap which is formed by the longest side of the bag should now be turned down and fastened in its place by a few long stitches with a needle and thread;

it should then be quickly wrapped in the strip of flannel (also previously warmed), and fastened *in situ*, if necessary, by means of the tapes. It may be covered outside with a sheet of cotton wool. In this way the poultice may be applied boiling hot to the skin without burning; the two layers of flannel, which are at first dry, allow the heat to pass very gradually indeed to the skin; as the moisture of the poultice soaks through them they become better conductors, and the heat passes more quickly, but the increase is so gradual as not to cause any painful sensations whatever, but only one of soothing and comfort. The poultice also naturally keeps much longer hot, and the necessity for changing it arises much less frequently."

Dr. Brunton further remarks that difference between the effect of a poultice made in the ordinary way and in the manner just described is sometimes exceedingly striking. It is, perhaps, less marked in cases of inflammation than in those of spasm. He has seen a patient suffering from intense abdominal pain at once relieved by such a poultice, although a succession of poultices made in the ordinary way had been utterly useless.—*The Practitioner*. October, 1882.

Cæsarian Section and Ovariectomy without Anæsthetics.—Johnen states that his teacher, Kilian, advised the disuse of anæsthetics during the operation of Cæsarian section, as he considered that great harm was frequently done by the production of vomiting, and that a conscious patient was not only less apt to disturb the surgeon by movements or straining than an anæsthetised one, but might aid him materially during the operation. He further thought that narcosis increased the tendency to subsequent hæmorrhage. Johnen has acted on this recommendation, not only in Cæsarian section but also in ovariectomy, and is so well satisfied that he now regards "narcosis" in Cæsarian section as "always unnecessary and often hurtful." In ovariectomy he considers it should only be induced in certain cases (not described) "where some psychic or somatic peculiarity renders it advisable." Riedel has performed ovariectomy twice, giving only enough chloroform at the beginning of the operation to render the patient insensible to the pain of the incision through the skin. He finds that the subsequent steps of the operation, even the securing and division of the pedicle, cause no pain, and that the patient can talk, drink wine, and move herself freely during the operation if requested to do so. König

lately performed ovariectomy on a "very decrepid" woman, aged 65, removing a cyst which held "three large bucketfuls" of fluid, and tearing through firm adhesions, without anæsthetics. The patient made no complaint except during the first incision and during the introduction of the superficial sutures of the integument. These surgeons claim that the patients who are not anæsthetised are in better condition after the operation than those who are, and recover better.—*Centralbl. f. Chir.* 1882. Nos. 9 and 20.—D. M'P.

On the Feeding of Infants.—At a recent meeting of the *Académie de Médecine* M. Tarnier read a paper on this subject. He is opposed to the use of the feeding bottle, on account of the difficulty of keeping it clean, and states that in the Maternity Hospital (Paris), infants which cannot be brought up at the breast are fed with a spoon or a cup. Preserved milk, of whatever brand, is of no value for new born infants. The following figures show the deplorable influence of the feeding bottle on their mortality. In 1881 there were 60,856 births in Paris; 14,571 infants were sent out of Paris to nurse, leaving 46,285, of whom 10,180 died, or 22 per cent. Of the 10,180 infants, 5,202 died of malnutrition; and of these 3,067 had been brought up on the bottle. In 1867, M. Druis-Dumont (of Caen) said that of 9,611 infants born in Calvados, 3,204 were brought up on the bottle, and of these 986 died, or 30 per cent. So also in Normandy, a third of the infants so nourished die. In Paris the proportion is at least 50 per cent.

Of the substitutes for mothers' milk three only are of practical importance—asses', goats', and cows' milk. In towns, asses' milk cannot readily be obtained; and is very dear. Goats' milk is more easily got, but is weak, and sometimes gives bad results even when the infant has been made to suck the goat. Besides, the milk has a disagreeable odour, and none can be had during four months in the year. There remains, then, cows' milk. The breed of the cow is of importance, but there is as yet no definite information on that point. The milk must be obtained from a cow which has calved some time, and the animal must not be kept for more than a year, because after that period it may become phthisical. Contrary to the ordinary belief, cows fed in the country on green herbage do not give such good milk as those fed on dry fodder.

The milk should be raised to a temperature of 98° Fah.; and M. Tarnier dilutes it with an equal quantity of water,

1 part of sugar of milk being added for every 20 parts of water. Sugar of milk renders the curd of the milk less firm and smaller, as does also albumen water. The milk should be diluted for 8, 12, or even 18 months, according to Tarnier.—*La France Médicale*. 28th September, 1882.—G. S. M.

New Method of Embalming.—Dr. Viradtkeff advises the employment of a mixture containing thymol, water, and glycerine, instead of the usual chemical used in preserving bodies—namely, the chloride of zinc.

His formula, which might be used in preparing bodies for dissection purposes as well, is as follows:—

Thymol,	-	-	-	5 parts.
Alcohol,	-	-	-	45 „
Glycerine,	-	-	-	2160 „
Water,	-	-	-	1080 „

He selects thymol because it is regarded as the best anti-septic we possess, and he adds the glycerine to retard the evaporation of the liquid. The amount of water employed should vary with the degree of emaciation of the corpse.

This mixture is perfectly inoffensive, and is cheaper than those usually employed. It also has the additional advantage that it does not corrode or injure the instruments used.

Corpses embalmed thus are preserved for an indefinite time, and gradually shrivel without any putrefaction occurring.—(*Journal de Médecine du Paris*, du 29 Juillet, 1882.) *Lyon Médical*. 13th August, 1882.—J. A. A.

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ORIGINAL ARTICLES.

STATISTICS OF GLASGOW LOCK HOSPITAL SINCE
ITS FOUNDATION IN 1805—WITH REMARKS ON
THE CONTAGIOUS DISEASES ACTS, AND ON
SYPHILIS.

By ALEXANDER PATTERSON, M.D.

(Read before the Glasgow Medico-Chirurgical Society, 3rd November, 1882.)

I WAS summoned to appear before the Select Committee of the House of Commons on the Contagious Diseases Acts, and gave evidence before that body on the 4th April, 1882. My evidence was desired, as understood by me, for the double purpose of exhibiting (1) The working of a Lock Hospital supported by voluntary contributions; and where the patients are admitted without fee or recommendation of any kind; and where no restraint is placed on their leaving: also (2) The effects of the Glasgow Police Act on prostitution, as put into active operation in 1870, by our excellent Chief Constable, on his accession to office.

The following tables were compiled from the carefully kept Annual Reports of the Hospital, which are complete, with the single exception of the year 1812, when none was printed, and here the want was supplied in the *Herald* office, by reference to the file for June of that year.

It will be observed that there were only seven deaths in Glasgow Lock Hospital during the last fifteen years, and of those three occurred last year, one from double pneumonia, from which the girl was suffering on admission, one from abscess in the brain, and one after giving birth to still-born syphilitic twins.

TABLE I.—STATISTICS OF THE GLASGOW LOCK HOSPITAL,
From its Foundation, 7th August 1805, to 31st December 1881.

YEAR.	NUMBER OF PATIENTS.		TOTAL.	HOW DISPOSED OF.			TOTAL.	AVERAGE SCOUTEN.	AVERAGE NIGHTLY NUMER.	AVERAGE COST.
	Admitted.	From Last Year.		Dismissed Cured.	Irregular.	Died.				
7th August, 1805, to	54	—	54	42	3	—	9	—	—	—
1806	}		54	53	3	2	8	—	—	—
1807			66	54	—	—	11	—	—	—
1808	67	8	75	84	—	—	13	—	—	—
1809	87	11	98	102	3	2	21	62	17	100/8
1810	115	13	128	103	1	1	17	68	20	81/6
1811	107	21	128	117	—	—	18	53	18	59/11
1812	127	—	—	151	—	—	20	47	20	78/10
1813	154	18	172	118	—	—	9	53	16	73/3
1814	108	20	128	126	—	1	22	52	20	74/5
1815	139	9	148	140	—	—	20	50	19	49/
1816	140	22	162	199	—	—	17	32	18	48/7
1817	198	20	218	213	—	2	15	33	18	36/10
1818	213	17	230	252	—	2	24	29	20	35/10½
1819	263	15	278	400	2	2	32	22	25	31/9
1820	412	24	436	360	10	—	28	—	30	31/
1821	364	32	396	300	7	—	38	—	29	28/6
1822	319	26	345	342	8	4	29	32	31	24/7
1823	345	38	383	404	11	1	37	30	30	29/6
1824	424	29	453	374	30	1	20	32	36	28/9
1825	388	37	425	314	5	3	21	32	28	26/7
1826	323	20	343	295	6	2	18	31	26	31/
1827	300	21	321							

YEAR.	NUMBERS OF PATIENTS.		TOTAL.	HOW DISPOSED OF.				TOTAL.	AVERAGE SOJOURN.	AVERAGE NIGHTLY NUMBERS.	AVERAGE COST.
	Admitted.	From Last Year.		Dismissed Cured.	Irregular.	Died.	Remaining.				
1828	245	18	263	236	6	2	19	263	32	21	33/1
1829	292	19	311	274	2	5	30	311	36	28	—
1830	314	30	344	304	8	4	27	344	—	—	28/10
1831	334	27	361	321	9	—	31	361	30	29	28/5
1832	363	31	394	352	7	3	32	394	33	30	25/2
1833	366	32	398	349	14	4	31	398	32	34	29/9
1834	333	31	364	339	12	3	10	364	29	26	26/8
1835	374	10	384	337	16	7	24	384	30	31	26/11
1836	267	24	291	260	8	8	15	291	35	25	32/
1837	293	15	308	280	10	3	15	308	35	28	34/
1838	353	15	368	335	5	2	26	368	31	30	37/4
1839	315	26	341	315	3	2	21	341	31	27	26/6
1840	348	21	369	337	4	4	24	369	30	29	25/6
1841	412	24	436	403	3	5	25	436	28	31	22/5
1842	380	25	405	376	2	3	24	405	28	29	21/3
1843	341	24	365	349	2	2	12	365	23	22	19/2
1844	379	12	391	355	1	—	35	391	25	25	19/6
1845	438	35	473	451	3	1	18	473	19	24	15/5
1846	339	18	357	326	3	2	27	357	26	25	24/3
1847	250	27	277	246	3	2	26	277	40	27	40/
1848	335	26	361	328	1	3	29	361	32	29	27/10 1/2
1849	200	29	229	207	—	3	21	229	38	21	36/6
1850	321	21	342	308	—	1	32	342	36	32	26/2 1/2
1851	232	30	262	232	—	2	30	262	44	26	33/6
1852	250	30	280	267	—	—	13	280	31	21	25/1 1/2
1853	302	13	315	292	—	—	21	315	27	23	27/
1854	430	21	451	420	7	—	24	451	24	29	23/10 1/2

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YEAR.	NUMBER OF PATIENTS.		TOTAL.	HOW DISPOSED OF.				TOTAL.	AVERAGE SICKENESS.	AVERAGE NIGHTLY NUMBER.	AVERAGE COST.
	Admitted.	From Last Year.		Dismissed Cured.	Irregular.	Died.	Remaining.				
1855	395	24	419	390	7	—	22	419	27	31	29/9½
1856	451	22	473	427	14	1	31	473	24	35	23/10½
1857	382	31	413	389	4	3	17	413	26	29	23/6½
1858	373	17	390	362	—	5	23	390	29	28	26/0½
1859	368	23	391	370	—	2	19	391	29½	30	26/0½
1860	393	19	412	388	—	3	21	412	31	33	25/9½
1861	407	21	428	400	6	1	21	428	27	35	23/9½
1862	368	21	389	361	—	—	28	389	27	28	27/9½
1863	415	28	443	409	4	1	29	443	27	31	22/9½
1864	465	29	494	462	—	1	31	494	28	35	23/0½
1865	488	31	519	482	6	—	37	519	26	36	22/3½
1866	493	37	530	493	2	2	37	530	26½	38	26/10
1867	482	37	519	499	5	—	20	519	27	36	26/6
1868	593	20	613	587	19	1	26	613	22	37	22/2
1869	598	26	624	600	16	—	24	624	23	38	19/
1870	534	24	558	521	14	—	37	558	23	36	22/
1871	394	37	431	407	—	—	24	431	29½	31½	30/0½
1872	369	24	393	358	—	1	35	393	30	27	35/3
1873	405	35	440	408	—	1	32	440	42	33	39/8
1874	436	32	468	424	—	—	44	468	33	41	36/9½
1875	402	44	446	414	—	—	32	446	32	31	37/4½
1876	424	32	456	421	—	—	35	456	28	35	35/2
1877	422	35	457	430	—	—	27	457	28	33	36/9
1878	426	27	453	435	—	—	18	453	26	30	31/7
1879	343	21	364	335	—	—	29	364	29	28	40/1
1880	385	29	414	390	—	—	24	414	26	29	34/6
1881	349	24	373	347	3	3	23	373	27	29	36/8

In Table II the decennial population periods extracted from the late W. Watson's *Vital Statistics of Glasgow for 1881*, are given from the year 1801, when "the numbering of the people" first took place, and the numbers admitted to the Lock contrasted with the numbers of people. It may be noticed that the highest number treated in any one year was 624 in the year 1869. At that time the house was so much pressed for accommodation that 57 patients were at one time received and treated in 35 beds. In the following year, 1870, the number of beds was increased to 60, but after the police proceedings were instituted, the number of patients declined, and the whole number of beds has never since been required.

The number of such patients has in fact greatly decreased, while the population of the city (and suburbs) has largely increased:—*e. g.*, In 1869, with a population of about 570,000, there were 624 Lock patients. In 1881, with a population of about 704,436, there were 373 Lock patients only.

It may be said that the Police Acts, by putting down the larger brothels, have simply scattered their inhabitants over a wider area, and that clandestinity has increased in proportion, and that they have lessened neither vice nor disease. The proof of this assertion is not forthcoming. Hidden prostitution does not afford immunity from disease, and I feel certain that they would resort to the Lock as well as admitted prostitutes—in fact, there cannot be the smallest doubt that numbers of those who come into hospital as unavowed prostitutes are simply what are termed clandestines.

If that were true, then the number of inmates in the Lock hospital would have increased in proportion to the growth of the city, as they would still come in from the suburbs, as they did from the centre of the city. *The very reverse is the fact.*

Why should not the unfortunates, whether pursuing their avocation, clandestinely or otherwise, in the city or suburbs, come into the Hospital now, as they did in 1869? Admission is as free now as then, and there is no more restraint in leaving now than there was in 1869. A few girls of the superior class who have means, pay a guinea each on admission. In 1870 between twenty-five and thirty such females paid; in 1881 there were only eight who so paid. It is to my mind tolerably evident that prostitution relatively to our population is not increasing—the reverse, I am inclined to think, is the fact.

TABLE II.—STATISTICS OF THE GLASGOW LOCK HOSPITAL,

From its Foundation, 7th August 1805, to 31st December 1881.

Number of Admissions for 75 Years.		Number of Irregulars.	Number of Deaths from all Causes.	Average Cost for Each.	Population of the City.	Average Sojourn.	Average Deaths.	Comparison of Admissions with the Population.
1801	—	—	—	—	77,385	—	—	—
1805-1810	380	9	4	—	—	—	—	—
1811	107	1	1	81/6	100,749	68	0·935	1 in 941
1811-1820	1754	2	9	—	—	—	—	—
1821	364	10	—	31/	147,043	44	—	1 in 404
1821-1830	2950	83	22	—	—	—	—	—
1831	334	9	—	28/5	202,426	32½	—	1 in 606
1831-1840	3012	79	36	—	—	—	—	—
1841	412	3	5	22/5	255,650	29½	1·214	1 in 621
1841-1850	2983	15	15	—	—	—	—	—
1851	232	—	2	33/6	329,096	29½	0·862	1 in 1419
1851-1860	3344	32	16	—	—	—	—	—
1861	407	6	1	23/9½	395,503	26½	0·246	1 in 972
1861-1865	1736	10	2	—	—	—	—	—
1866	493	2	2	26/10	City, 477,732 Suburbs, 101,930	26½	0·406	—
1867	482	5	—	25/6		27	—	—
1868	593	19	1	22/2		22	0·169	—
1869	598	16	—	19/		23	—	—
1870	534	14	—	22/	Pop. of City, 510,816 Pop. of Suburbs, 193,620	23	—	—
1871	394	—	—	30/0½		29½	—	1 in 1506
1872	369	—	1	35/3		30	0·271	—
1873	405	—	1	39/8		42	0·247	—
1874	436	—	1	36/9½		33	0·229	—
1875	402	—	—	37/4½		32	—	—
1876	424	—	—	35/2		28	—	—
1877	422	—	—	36/9		28	—	—
1878	426	—	—	31/7		26	—	—
1879	343	—	—	40/1		29	—	—
1880	385	—	—	34/6		26	—	—
1881	349	3	3	36/8	704,436	27	0·860	1 in 2018

Total Admissions for 75 years,	25,070	Average percentage of Irregulars	
Total Irregulars	318	for 75 years,	1·2684
Total number of Deaths, ,,	122	Average percentage of Deaths,	
Average Sojourn, - - -	27½	for 75 years,	0·48662

The Population of the City in the year 1821 was 147,043, and there were 364 patients admitted in that year. In 1881 the population is 704,436, and at the same rate there ought to have been 1,744 patients admitted for that year, whereas 349 were admitted

DIETARY SCALE.

Sunday,—Porridge and Milk twice daily—Rice and Milk—Bread.			
Monday,	do.	do.	Broth and Beef do.
Tuesday,	do.	do.	Rice and Milk do.
Wednesday,	do.	do.	Pea Soup, do.
Thursday,	do.	do.	Broth and Beef do.
Friday,	do.	do.	Rice Soup do.
Saturday,	do.	do.	Broth and Beef do.

Tea is given to a few for particular reasons, about 9-10 patients daily.

The Surgeons may order what they please, and it is at once supplied.

Stimulants are seldom used unless in extreme cases. The entire quantity used is so trifling that no average can be drawn. £2 sterling covers the stimulant expense for last year.

The principle of perfect freedom of admission to all who apply, without line or recommendation of any kind, and no restraint in leaving beyond kindly advice, is followed to the letter. I have often noticed that females, however abandoned, rarely altogether lose the sense of shame, and that on a medical visitor, a stranger, being present, the younger women especially, come into the examination room with great reluctance. So well is this feeling understood in the Hospital, that when some time ago a large number of students made their desire known to come in class form, the Directors very properly withheld their sanction. I fancy that with the Contagious Diseases Acts the last remnant of modesty would be quickly driven away from the youngest inmate, and thus all hope of reclamation destroyed. My respected colleague, Dr. Dunlop, and myself, make it an invariable rule to treat our Lock patients with the greatest kindness, and with the same delicacy exactly that could be shown to any private patient, and we seldom have much trouble with them. In a *very few* cases of young girls with acute inflammation of the parts, chloroform is administered prior to using the speculum. It can be well imagined that, if one persisted in introducing an instrument in such circumstances, without an anæsthetic, the girls would not be likely to remain long in the Hospital.

About ten or eleven years ago, some of the Managers deemed it advisable to assume powers to detain a patient by means of an "undertaking" to remain until cured, to be signed by her on admission. The plan was tried, but it was found that the patients got frightened, and the authorities were informed that women refused to sign, and would not come in; and that others, after signing, refused to abide by their "undertaking," consequently the scheme was abandoned in less than twelve months.

GLASGOW LOCK HOSPITAL.

DIRECTIONS TO THE PATIENTS ON THEIR ADMISSION.

, the Day of , 187

Name,

You, being admitted a Patient into this Hospital, are to observe the following Directions :—viz.,

I. You are to remain here until you are discharged.

II. You are to behave yourself *soberly, decently, and regularly*, avoiding all swearing, quarrelling, and the like, and exactly observing the rules of the house; for, on any complaints of misbehaviour, you will be discharged, or sent to the Police Office.

III. You are to get out of bed at Seven o'clock in Summer, and Eight o'clock in winter; and immediately wash and clean yourself before breakfast.

IV. You are to make your own bed, assist in cleaning the Ward, and do any other services in your power for those who are not able to help themselves; also to assist in the Washing House on such days as may be named by the Matron.

V. You are to go regularly to bed, by Seven o'clock in the Evening in winter, and Eight in summer.

VI. YOU ARE NOT TO GO OUT OF THE HOSPITAL, ON ANY PRETENCE WHATSOEVER, UNTIL YOU ARE REGULARLY DISCHARGED; and if, after this caution, you go out, you will not be suffered to return into the house.

VII. You are to attend, quietly and orderly, Divine Service, as required, to the instructions given in the Wards by the Chaplain of the Hospital, or by such as may be appointed by the Directors.

VIII. You are not to receive any liquor or provisions not supplied by the Hospital—tea, bread, butter, and sugar, excepted; nor to bring into the Hospital any books, without leave of the Chaplain.

IX. You are to attend to any orders that may be given by the Matron, Superintendent or Nurse.

Having heard read the above Directions and Conditions, on which I have been admitted to the LOCK HOSPITAL, I now agree to abide by them in all respects.

Name,

Occasionally a patient asks for dismissal before she can be considered well, when she is quietly and kindly reasoned with as to the impropriety of her leaving, and usually she remains. Of course, if she insists on getting away, she cannot be detained. When such a case does occur, our very judicious Superintendent, Mr. Condra, places every obstacle in the way of re-admission of that patient, and this is found to have a salutary effect. In my opinion, if you forced girls to come in, and detained them against their will in Hospital, you would act most unjustly. You practically *imprison* them, and for what reason? Because they may be suffering from disease inflicted upon them by the opposite sex.

TABLE III.—GLASGOW LOCK HOSPITAL.

This Table gives the number and occupation of the patients admitted during the ten years beginning 1st January 1870, and ending 1st January 1880.

Mill Girls,	1,381	Shop Girls,	19
Domestic Servants,	1,057	Ragstore Workers,	18
Prostitutes,	496	French Polishers,	18
Machinists,	152	Barmaids,	12
Washerwomen,	122	Shirtmakers,	12
Bleachfield Workers,	92	Rope Workers,	11
Needlewomen,	85	Brick Workers,	11
Housewives,	79	Fancy Box Makers,	11
Hawkers,	75	Tobacco Spinners,	10
Charwomen,	66	Stay Makers,	10
Farm Servants,	51	Hair Workers,	9
Dressmakers,	48	School Girls,	9
Warehouse Girls,	48	Calenderers,	9
Bookfolders,	44	"From Home,"	15
Pottery Workers,	36	Various Employments,	66
Tailoresses,	28		
Confectioners,	27		240
Milliners,	20		3,907
	3,907	In all,	4,147

Occupation of the 66 Various.

Ballet Girls,	5	Painter,	1
Japanner,	1	Match Makers,	2
Fishmongers,	6	Bead Workers,	2
Rope Workers,	4	Biscuit Bakers,	3
Picture Colourer,	1	Knitters,	2
Cigar Maker,	1	Candle Makers,	3
Boot Finishers,	7	Printers,	4
Fringers,	2	Brass Cutter,	1
Pit Workers,	3	Lead Workers,	2
Message Girls,	2	Store Girls,	5
Telegraph Clerk,	1	Stewardess,	1
Bottler,	1	Sailmaker,	1
Dairymaid,	1	Furrier,	1
Rivetter,	1	Glass Workers,	2

Those marked "from home" include children with hereditary disease and those who had just left home for the hospital.

This table gives the number and occupation of the patients admitted in ten years, and is both curious and interesting, as exhibiting the immense variety of employments at which young females are engaged in a large city. In the *British Medical Journal* for 6th May, 1882, there appears a somewhat peculiar report of my evidence before the Committee—"During a period," it states, "of ten years—from 1870 to 1880—there were only 500 prostitutes admitted to the

hospital, against 1,100 domestic servants; and 1,300 mill-hands, besides hundreds of women of other trades and occupations. Therefore, considering the class of patients that resort to the hospital, 'it is not surprising,' as Dr. Patterson says, 'that they are, as a rule, quite willing to remain till cured.'" Those two sentences are most misleading. The reader is led to infer that the vast majority of admissions consist of a different "class of patients" from ordinary prostitutes. I regret to see that I have been misunderstood here. It was distinctly stated in my evidence, regarding the table referred to, that those were the occupations which the females themselves gave on admission, but that their statements were not reliable. They gave the occupation at which they had last wrought, possibly years before, and probably at which some of them still worked, taking to prostitution as a means of augmenting their very small wages—and that, when better, they would return to their daily employment. What the table was furnished for was to show how the vast majority refrained from classing themselves as "avowed prostitutes," and I fail to see what good can accrue from branding them with the broad arrow, and avowing them prostitutes by Act of Parliament.

During the last twenty-five years, and most probably since the establishment of the hospital, there has not been a single Jewess admitted as a patient. As bearing somewhat on the question in hand, I may be permitted to state that for fourteen years I held the office of surgeon to the Glasgow Hebrew Society, and that during the currency of that period, on an average, not more than one patient per annum presented himself with venereal disease in any form; there was not a single case of delirium tremens in the Hebrew community, and only one or two deaths from phthisis. The Hebrews are amongst the most moral, as they are indisputably the healthiest class in our city.

Statistics of 500 cases as regards age, and which may be taken as an average over all. The occupations mentioned in the preceding table must be considered as their former means of living. As an example, taking the first fifty cases which we came across, only sixteen had given up their employment within six months previous to admission, and the remainder were over six months. Three or four more than a year, three over two years, three over three, one over nine years, and yet these all call themselves mill girls, domestic servants, &c., &c. As regards age of those who had given up their employment over six months,

the ages given run from fifteen to thirty-nine, the latter being exceptionally old, the average might be stated about twenty. Of those who had given up their employment within six months, the ages ran from 15 to 22; the average about 18. In some cases marked "school girl," one as low as seven years of age is given by the surgeon as having contracted the disease herself. The others, called school girls, ranged from seven to fourteen years of age. As regards those who gave no occupation, or called themselves "prostitutes," the oldest was 22 years of age, the youngest 15, and the average about 18 years.

With regard to the ages of the Queen's women, as they are termed, a report ordered to be printed by the House of Commons, in July 1882, gives the following results, and from them we may infer something of the hardening effect produced on the unfortunate females by these Acts.

From returns showing the ages of known common women in the several districts at the time the Acts were first put in operation:—

In 1866, of 2,613 women the average age was 21 years 4 months.

In 1881, of 1,796 women the average age was 25 years 10 months,
a difference of 4½ years.

Women. 26 and under 31.		31 and over.	
In 1866...2,613	267, 10½ per cent	99 3¼,	14 per cent above 26.
In 1881...1,796	429, 23¾ per cent	386 21¼,	45 per cent above 26.

It is stated that this increase in the ages of the registered prostitutes "is attributable to the improved health of the women, and their freedom from neglected disease, which, in former times, cut short not only the career, but the life of the prostitute at an early age." This seems to me an extraordinary statement, and one totally inconsistent with facts. Deaths among prostitutes in Glasgow are extremely rare now, and have been gradually decreasing during the last thirty years; and I have already shown the average age of the females is very much lower here, although we have no Contagious Diseases Acts. I should attribute the fact, which has nothing to do with the lengthening of their lives, to this, that they apparently remain prostitutes for life, when they find themselves well looked after and licensed by the State, thus giving an apparent varnish of respectability to their miserable calling, as well as to the fact that their customers have increased, and likewise their remuneration.

Contagious Diseases Acts.—The Contagious Diseases Acts were passed with two objects, the diminution of venereal disease and the increased efficiency of the military and naval services.

John Milton tells us that "When the law falls to regulate sin, and not to take it utterly away, it necessarily confirms and establishes sin."

The fundamental idea of the Acts is, that prostitution is a necessary evil, a position to which no Christian can assent; and any Act of Parliament morally wrong can never be politically right. The Acts are a distinct State recognition and licensing of vice, and it is now found that whilst disease has not been lessened in the females, vice is alleged to have increased in the male sex; a result which might have been anticipated when men are taught by Government that they can commit sin with impunity. "The licensing of any class of criminals is impolitic and sinful; and the Government that countenances the continuation or existence of public brothels, fails in performing its duty."—Tait, p. 300. In 1842, Tait, *Magdalenism*, p. 314, makes the following statement:—"The licensing system has no advantages that may not be obtained without giving countenance to the continuance of prostitution in any form." In corroboration of which opinion this extract from the *Minority Report of Proceedings of Select Committee*, 1882, p. 78, may be adduced:—"That the ordinary law under the administration of the local police is able to effect reductions both of brothels and also of prostitutes in an 'unprotected' place, even greater in number than the decreases respectively claimed in the subjected districts, is conclusively shown by the evidence of the chief constable of Glasgow. . . . Upon the whole, then, Glasgow furnishes, in respect of prostitution, as remarkable an example of police administration as it does of hospital operation, without any of the auxiliary powers of the Contagious Diseases Acts, and with results more beneficial in all respects."

This is the result of the Acts, so far as the females are concerned—"That after eleven years' complete operation of the Acts (*i. e.*, 1870-1880) the annual ratio per cent of cases of disease among the registered women was higher in 1880 than in any previous year of such period, and had been steadily increasing since the year 1875," *Report*, p. 76.

Medical Objections.—The following are some medical objections to the probability of success attending such Acts:—

1. Any attempt to arrest the progress of a disease, common to both sexes, by the examination and seclusion of the diseased of one sex only, appears to me to be manifestly absurd. How

are all the first attacks of venereal disease in the female contracted? Obviously from the male sex.

2. The very great difficulty of distinguishing the exact nature of the discharge in the female.

3. The fact that a woman can, in many instances, so prepare herself for examination, by washing and cleansing herself, as to deceive most men as to the presence or absence of gonorrhœa.

4. The extreme difficulty of always detecting the infecting sore. In fact, in the ordinary prostitute, we do not very often see a well marked hard chancre.

5. Mediate contagion—where a woman may be merely the vehicle of disease conveying it to many men, yet, on examination, there may be nothing visibly the matter with herself.

6. The probability of a woman being perfectly clean to all appearance, yet having previously contracted disease, it makes its existence tangible a day or two after examination, and she goes on infecting until next examination day.

7. The ordinary secretions of a syphilised woman may give constitutional disease; at all events when mixed with the smallest quantity of blood.

8. No system of Registration can prevent clandestine prostitution.

Inspector Annis, whose duties are to carry out the Contagious Diseases Act in the Devonport and Plymouth district, questioned by Dr. Cameron, M.P. (*B. Book*, 1881, p. 167):—

“The number of brothels in the district before the commencement of the Act amounted to about 400 in round numbers, did it not?—It did.

“And at the date of your last information how many were there?—When I left Plymouth on the 25th inst. there were 70.

“As the right honourable gentleman who examined you last remarked, they have been reduced, roughly speaking, to about one sixth?—Yes.

“What is the population of your district?—It would be now, taking all the villages, nearly 180,000.

“You are aware that in Glasgow there are no Contagious Diseases Acts?—I am.

“Should you be surprised to learn that there, in a population many times greater than that of your district, there are only 38 brothels?—I am not surprised to hear that, it is in print; but I would be surprised to find that it was a fact.

“Would you be surprised to know that that is the evidence given by the chief constable of Glasgow?—I should not be

surprised to hear it; I presume it is the fact. Of course I accept that.

"The chief constable of Glasgow, in the evidence from which I am quoting, before the Committee which some years ago sat upon the Sale of Intoxicating Liquors on Sunday (Ireland) Bill, mentioned that in 1849 there were in Glasgow 211 brothels; in 1874 there were 204; and at the date of his evidence, in 1877, the number had been reduced to 38; and he explained this reduction as having occurred through the powers which licensing laws and local Acts gave him?—I do not know Glasgow at all, and therefore I cannot speak of it.

"You consider the reduction of brothels a great improvement?—I do, clearly.

"Then should you not consider that the state of Glasgow in respect of brothels shows a vast improvement over the state of Plymouth?—The difference as stated would be in favour of Glasgow.

"The actual state of things being 70 brothels to 180,000 inhabitants in Plymouth, against 38 brothels to 500,000 inhabitants in Glasgow; which shows the best?—Clearly Glasgow.

"And there are no Contagious Diseases Acts there?—No."

In Paris, where the Contagious Diseases Acts have been in force for many years, and where they were carried out with the utmost rigour, they have been found to be totally useless, in so far as retarding the spread of syphilis is concerned. They have been abolished, and no examinations by State medical men have been practised since December, 1881.

In Hong-Kong the British Government license is issued in these words:—"Chinese women for the use of Europeans only."

In 1868 the 2nd Battalion, 5th Fusiliers, 648 men, was stationed at Aldershot and Dover, half-time at each place, and both protected districts, when 126 cases of venereal disease occurred. In 1870 the same battalion, 599 men, stationed at Glasgow and Ayr, had only 103 cases in the twelve months.

The alleged saving to the State is about 5·38 in the 1,000 men. The working of the Contagious Diseases Acts costs £30,000 a year, or £110 per man; there being about 50,000 men in the subjected districts.

This is the number of Cromwell's army, a body of men whose backs no enemy ever saw, and one would be curious to know his opinion of such Acts. I think it would be that of his great secretary, Milton.

Alteration in the Character of Syphilis.—Within the last

twenty-five years syphilis, according to my observation, has become much less virulent in type. We scarcely ever see a case of necrosis of the tibiæ, few cases of destruction of the nasal bones, and the corona veneris is looked upon as a great curiosity. It may, possibly, be open to question if in many cases of bone destruction, mercury, which in former times was administered so lavishly, were not the cause—and that the cure proved worse than the disorder. Cases of gangrene, destroying the prepuce and glans penis are seldom observed; and cases of hospital gangrene, attacking open buboes and laying bare the femoral vessels in their sheath, a sight which five and twenty years ago was not extremely rare, have now entirely disappeared. Rapidly destructive phagedænic ulceration of the soft palate we meet with occasionally, and here, with regard to this form of disease, I should like to enter my protest against the application of nitric acid or caustics of any description, and also against the use of gargles. In all forms of phagedænic or gangrenous destruction of parts in syphilis, *opium* is our sheet anchor.

For example, in a case of acute phagedænic ulceration of the palate, with the ulcer in the palate surrounded by a lurid red, undefined, and rapidly spreading border, give the patient one grain of opium every eight, or six, or four hours, according to the strength and age of your patient; and, so far as my experience has gone, there will be no cause to regret the practice. The opium alone will arrest the progress of the disease. Phagedæna may attack the primary sore, whether it be the Hunterian or the soft chancre; and if mercury is being administered in the case of the hard sore, it should be at once stopped, as the state of constitution which determines the state of the sore, in my opinion, precludes the use of mercury; however, its use may be resumed when the sore shall have assumed the healthy aspect.

The immense improvement in the sanitary state of the city of Glasgow, within the last twenty-five years, has no doubt had much to do with altering the character of syphilis, especially in checking epidemics of the more virulent forms of the disease. A man, living in a dark, damp, ill-ventilated dwelling contracts a primary sore. With such indifferent hygienic surroundings, the sore is likely to assume the phagedænic type, exactly in the same way that if you place a number of patients with open wounds in an hospital ward, ill-ventilated and overcrowded, erysipelas, pyæmia, and hospital gangrene may make their appearance.

Syphilitic Warts, if such ever existed, must have entirely

disappeared. I do not think that I have ever seen a case. Venereal warts are of every day occurrence, but these, in my opinion, are always the result of gonorrhoea and want of cleanliness in the female, and in the male, from balanitis, or the retention of pus beneath the foreskin. They are always local, and amenable to local treatment. Of course you will not mistake them for mucous tubercles, which are constitutional, demanding for their cure constitutional treatment.

Curability of Syphilis.—The question as to the active and complete eradication of syphilis from the constitution is one frequently put by the patient to his medical attendant, and is one which, I fear, cannot be answered, in every case, in the affirmative, no matter how long the course of treatment may have been continued. Before giving up obstetrical practice, I had attended upwards of two thousand cases of labour, and in a number of those it so happened that the husbands, when unmarried men, were known to have had syphilis. Cases came under observation where five, six, or seven years had elapsed from the contraction of the disease until marriage, and when all symptoms had been absent for years, yet abortions and children distinctly syphilitic were the result of marriage. In some cases the child is born, to all appearance healthy, when at a period somewhat about a year after birth it is seized with convulsions of an epileptiform character, accompanied by bulging of the anterior fontanelle, and squinting—with symptoms much resembling those of tubercular meningitis, with this in addition, that in some cases mucous tubercles make their appearance on either side of the anus—these are curable by anti-syphilitic remedies. In another case, the child attains the age of two or three years when that remarkable disease—syphilitic pemphigus—makes its appearance. In still another, between, perhaps, the years of seven and twelve, circular bald patches form on the head. And again, the child may reach early adult life when an eruption resembling rupia, covers the whole body and limbs, and in connection with this a curious form of ulceration takes place on the posterior surface of both thighs. If you can fancy the shoe of a donkey made red hot, stamped with the open end downward upon each, it may convey an idea of the shape of the ulceration. This I have observed only a few times, and, as I think, only in cases where the constitution was deeply tainted.

In many cases of syphilis, treated in the ordinary manner,

the patient is apparently perfectly cured, and remains so for twenty or thirty years, until declining years and failure of constitutional vigour occur, when the long quiescent malady reappears in the form of tertiary disease.

A remarkable phase of tertiary syphilis that I have not observed described in books takes place in connection with the ankle joint. The tissues, lying over the lower end of the fibula, become puffy and painful, without discoloration, the pain being increased on deep pressure; this swelling, under appropriate treatment, may disappear, possibly only to return again. The bone becomes affected, if not primarily so, and the diseased action spreads into the ankle joint, demanding, in some cases at all events, amputation of the foot. I have witnessed a number of such cases, where the history was clearly traced.

Years ago, a patient aged 33 came under my care, suffering from tertiary disease of the bones of the nose, and also from a tight organic stricture of long duration. He had been married for ten years, and hitherto there had been no family. It was stated that both diseases were contracted at the same time, and at the age of 21 years. Anti-syphilitic remedies were prescribed, and the stricture was dilated; his wife became pregnant, the first child was still-born, the second lived for a few weeks, the third reached adult life, while the fourth and last was born acephalous.

In the *International Encyclopædia of Surgery*, vol. i, page 241, in the article on Scrofula and Tubercle, two cases of the former are given, and the author states that "Each of them is typical in its kind." One, "A woman, whose age was only fifty-nine, but who was prematurely old. She was white haired, anæmic, weak, and withered. The first phalanx of her left forefinger was greatly enlarged, and covered with thin, red skin, glazed and ulcerated. Sinuses passed directly into the interior of the bone, which was as if blown out into a thin walled cavity, containing a soft material, in which were numerous grits of bone. On the upper aspect of each foot was a circular ulcer, with thin, red, undermined edges, through which rough and carious bone could be reached. And over the left patella were two small ulcers, implicating the skin and subcutaneous tissue, but not connected with disease of bone. Her history was free from any record of specific disease. She had been always delicate, and about five years ago had become completely blind from amaurosis. Within the last two years abscesses and ulcers had formed, first on the finger and then on the feet; and tiny fragments of bone had

come away at intervals. She was kept under observation during several weeks, and was well fed and warmly clothed. Quinine and iron were administered, and the wounds were dressed with a slightly stimulating ointment. But she made little or no progress towards recovery." Referring to both cases, the writer says—"No one would, I imagine, be disposed to deny that these patients were suffering from scrofula." I am inclined to think that the author has been rather unfortunate in his selection of an example.

It appears to me that the patient whose case is given here so distinctly, was not suffering from scrofula. The case was, to my mind, undoubtedly one of tertiary syphilis, in which the woman had had the primary contamination, possibly thirty years previously, and such cases are by no means uncommon, but they are not curable by quinine and iron. I have taken the liberty of making such a lengthy quotation, because the case, in my opinion, presents a phase of syphilis by no means rare, and also, because the book is only in process of publication, and according to the preface the writers "*are believed to be specially qualified to give authoritative instruction, each upon the particular subject which he has undertaken.*"

Gonorrhœa.—Fournier and other French writers, and a number of our own authors, inform us that gonorrhœa is often due to accidental causes, and not to direct contagion; that it may be produced by the secretions of a perfectly healthy female, also from leucorrhœa and the menstrual discharge. If gonorrhœa occurred in this way, it would probably be much more common than it is; and whilst it may not be definitely stated that it cannot arise in this manner, it may, I am inclined to think, be affirmed, that in such a case it will be very slight—not at all a well marked purulent discharge, and that a few days will suffice for its cure. All that I can say is, that of many cases of gonorrhœa, alleged to have been contracted in this way, I have never been able to verify a single instance.*

* I have here to record my thanks to Mr. John Macintyre, M.B., for the very valuable assistance rendered me in the compilation of these tables.—A. P.

AN ADDRESS ON SCOTTISH MEDICAL TEACHING,
ACADEMIC AND EXTRA-ACADEMIC, DELIVERED
AT THE GLASGOW WESTERN MEDICAL SCHOOL,
1st NOVEMBER, 1882.

By D. C. M'VAIL, M.B.,
Lecturer on Practice of Physic.

DR. RUSSELL AND GENTLEMEN,—To-day, in accordance with a long observed custom of the Glasgow Medical Schools, we are met together that some words may be spoken introductory to the work of the session that lies before us. This Western School, which is now entering on the third year of its existence, was formally opened at a meeting held in an adjoining room, two years ago, under the presidency of the President of the Faculty of Physicians and Surgeons. The lecturers were then but three in number; we had no anatomist, no chemist, no physiologist, no lecturer on *materia medica* or medical jurisprudence. Our classes were not large—seventeen men in all attended at our school. We did our best for them, and I for one have never had a more pleasant session's work than that of the first year of our new school. The second session opened under more favourable circumstances. We had added four members to our teaching staff, and classes were formed for all the subjects of the medical curriculum, save one alone. Our success was more than we could have looked for. In the winter and summer sessions over eighty students took one or more classes in the school. This session we open under still more encouraging conditions. Our teaching staff is now complete, and attendance here will qualify for admission to the examinations of the Royal Colleges of Physicians and Surgeons of England, Scotland, and Ireland, for the Faculty of Physicians and Surgeons of Glasgow, and for the universities also, in accordance with their regulations.

It is generally held that success attending any endeavour is a sufficient justification for that endeavour having been made; and, in accordance with this, we might hold that any further vindication or explanation of our position had now become unnecessary by the very great measure of success with which our exertions have already been followed. But, as we, the teachers of this school, seek to carry with us, in all we do, the hearty sympathy of the profession and the community at large, I will take advantage of the present oppor-

tunity to explain somewhat more fully than it has hitherto been possible to do, the reasons that exist for adding another to the Glasgow Schools of Medicine.

Three hundred and seventy-seven years have elapsed since the first public step was taken for the teaching of medicine in Scotland. And this was not due to Royal influence or to any far-seeing politician of that time, but to the shrewd practical sense of the Town Council of Edinburgh, who then, as in later times, have shown themselves to be far in advance of all other municipal bodies in whatever pertains to the education of the people. They, in 1505—a time of greater national prosperity than the country had for a long time been accustomed to—issued a charter, giving powers to the surgeons and barber surgeons of Edinburgh to form themselves into a corporation, to the members of which, in all time coming, would belong the exclusive right to practise the art of surgery in the city of Edinburgh.

This corporation, once formed, entrance to it could only be obtained by those who should serve a term of apprenticeship with one or other of the members of the craft, and who, in addition to apprenticeship, had become freemen or burgesses of the city. Moreover, before receiving his credentials, each required to pass an examination in “anatomie, nature, and complexion of every member in man's bodie, and likewise that he should know all the veins that he may make flewbothomie in dew time. Also, that he know in what member the sign has domination for the tyme.” This somewhat extensive scope of examination implied that there should be means provided for the teaching of anatomy; and so it is further ordained that at least once in each year a condemned criminal, after death, be given to “mak anatomie of quhairthrow we may haif experience. Sek ane to instruct ithers.”

Of the members of this corporation at that early day we know nothing—oblivion possesses them wholly—their names even are unknown. Whatever of original observation they may have made obtained no place in the roll of scientific achievement. But, most probably, in Edinburgh there was not at that time any scientific discovery made that was worthy of being perpetuated. The year's anatomical work would, for the most part, consist of the coarse unskilful dissection of the one body supplied by the hangman. A barber would be the dissector, while a surgeon would read from the book of Mundinus passages explanatory of the parts exposed to view. On the continent great strides were being made in anatomy;

James Sylvius at Paris, Vesalius at Padua, Fallopius at Pisa, and Eustachius at Rome in quick succession achieved undying reputation in the dissecting room; but from 1505 to 1694, there seems to have been no advancement made in Edinburgh; nor does there seem to have been any member of the Incorporation of Surgeons who attained to distinction among scientific men. In 1694 occurred the first awakening of the profession in Edinburgh to that noble career in which the great schools of the continent—Basle, and Padua, and Pisa, and Rome, and even Paris itself were outrun in the race of glorious achievement.

In October of that year, Alexander Monteath, a member of the Surgeon's Guild, convinced the Town Council that the single annual contribution from the hangman was insufficient material from which to teach and learn anatomy; and they in that month granted to him that for a period of thirteen years he should receive for anatomical purposes the bodies of those who should die in the Correction House and also the foundlings that should die on the breast. They, moreover, gave him a room for dissections, and the use of the college churchyard for burials. This example speedily stimulated others, and the Corporation of Surgeons, as a corporation, applied to the Town Council for additional anatomical material, which was in a very liberal degree granted, but on the condition that the corporation should build a suitable anatomical theatre; and in 1697 this building was ready for use, and a committee was chosen "to appoint the methods of public dissections and the operators."

How matters progressed for a few years we are without information; but in 1705 the surgeons appointed one of their number to be professor of anatomy. This honour fell to Robert Elliot, and he in that same year received from the Town Council intimation that they would pay him £15 a year if, in addition to teaching anatomy in Surgeons' Hall, he would become curator of the "rarities in the colledge, and make ane exact inventor of them."

This "colledge" in which the Town Council were interested, and soon to be known as the University of Edinburgh, was then an institution in very humble circumstances. It had been founded by James VI in 1582, who gave leave to have it called King James' College, and this name, with the charter of its foundation, was about all it ever received from that impetunious monarch or his immediate successors; and but for the patriotic spirit of the Town Council of Edinburgh it would speedily have become extinct. Under their fostering care its

feeble life had been preserved, and in 1676 a professor of botany had been appointed, and in 1685 a chair of practice of physic was instituted, with no less than three professors to it—Dr. Archibald Pitcairn, Sir Robert Sibbald, and Dr. Halket. But these gentlemen seem to have regarded their office as titular only, although probably this was more from necessity than choice, owing to there being no students to teach; for we find that in 1695 Professor Sutherland, of the chair of Botany, besought the Incorporation of Surgeons to make it compulsory on their apprentices to attend his class, and each to pay him a fee of 23s. Thus early began that compulsory attendance on university classes that is not extinct in our time.

In 1705, as I have said, Robert Elliot was appointed first professor of anatomy by the Corporation of Surgeons, and he received for his encouragement £15 yearly from the Town Council, the patrons and managers of King James' or the Edinburgh College. In rapid succession his place was occupied by Drummond and M'Gill; and in 1720 Alex. Munro was, by the surgeons, appointed to the chair; and they at the same time recommended to the Town Council that they also should create him professor of anatomy in the college over which they presided and continue to him the grant of £15 given to his predecessors. And this joint professorship in the Corporation of Surgeons and King James' College, he for his lifetime continued to hold, and until 1725 he lectured in the theatre of Surgeon's Hall, when, in that year, owing to a "resurrection" riot, a more suitable room was given him in the college of the Town Council.

Anatomy has at all times been the backbone of a school of medicine, and on the anatomist more than on any of his colleagues, depends the success of the undertaking; and so well had Elliott, Drummond, and M'Gill taught the subject that in 1720 there was quite a large staff of lecturers teaching under the friendly roof of the Surgeon's Hall. St. Clair taught the theory of physic, Rutherford and Innes the practice of physic, and Plummer, whose name lives in his pills, taught chemistry. When their colleague, Munro, got his new theatre in the college of King James from the Town Council, in 1725, these gentlemen also petitioned that body to give them like accommodation, and in 1726 this was conceded, and the Council made them professors of the college, and added to them a professor of midwifery—Mr. Joseph Gibson, a member of the College of Surgeons. In that year also of 1726, these professors were, by the Town Council, authorised to grant degrees in medicine. Great success attended these teachers

in the Edinburgh college; from 1726 to 1790, no fewer than 12,800 students of medicine were taught in that institution, and it became the most famous medical school in Europe.

Thus were those efforts of the Corporation of Surgeons to establish in Edinburgh a great college of medicine—efforts continued under unfavourable circumstances for 220 years, at length crowned with a measure of success that could not have been looked for; and although the lecturers had now passed from their more immediate supervision to that of the Town Council, they still continued to take the warmest interest in the proceedings of the school. And from the constitution then of the college or university of Edinburgh they were enabled very effectively to interfere in its medical affairs when they thought fit, for the Town Council were the sole patrons and managers of the college, and the deacon or preses of the Corporation of Surgeons had a seat in the Council.

But in course of time the surgeons and the professors became less cordial in their relations with each other, for the professors having obtained secure possession of their chairs, began to think they could manage the college affairs much better than the Town Council, and they made many efforts to get the power into their own hands. In 1703 there had been unpleasantness between the council and professors, for the professors had appointed the date and form of graduation in arts for that year without consulting the Council. The Lord Provost and Council met, and ordered the attendance of the professors, and had the old college laws given by the council read at the meeting—re-asserted their rights in the most positive manner, and forced the professors to promise obedience for the future. The minutes of the meeting bear that “the Council discharge and prohibit the regents upon their peril to graduate any in time coming but such who take out a certificate or diploma with the town’s seal, and poor scholars to have it *gratis*; and order that all certificates make honourable mention of the Magistrates and Council of Edinburgh as patrons of the college.”

Well fitted was the Town Council then to govern the affairs of the college. It owed its very existence to their predecessors who, in 1561, had endeavoured to obtain a charter to found it from Mary, and in 1563 actually bought ground on which to erect it, although the troubles of that period interfered to prevent it. But in 1582, so soon as matters were quiet again, they renewed their entreaty to Mary’s son, James, and from him at Stirling, in April, 1582, received the long desired

parchment. On the ground they had previously bought, the site of the Old Kirk of Field, where poor Darnley had met his awful fate, they at once proceeded to erect the college buildings, and in October of the same year their class room was ready for use. On the 11th of that month public intimation was made "that students desirous of instruction should give up their names to a Bailie, who shall take order for their instruction, and on the 16th of the same month Mr. Wm. Littil was appointed 'to devise the order of teaching to be kept in the college now erected.'" Mr. Robert Pollock, from the college of St. Salvator, in St. Andrews, was the first professor.

The interest of the council in the college never flagged, and they allowed no feelings of private friendship to influence them in their election to vacant chairs. In the year 1700, for example, there was a vacancy, and the following minute of the council occurs:—

EDINBURGH, 7th October, 1700.—"The Council, considering that there is a vacancy of a Profession of Philosophy in the college of this burgh, through decease of M^r. John Row, late Professor of Philosophy there; and the Council being resolved to have the said office filled up with a well qualified person for teaching of philosophy: therefore, they appoint a public dispute to be made in the said college for the said office. In order whereunto they ordain programmes in the ordinary form to be affixed upon the college, public places, and avenues to this city, and other colleges and universities of this kingdom, inviting all qualified persons to come and list themselves against the 12th of November next, in order to dispute for the said office,—and recommend to Bailie Rule and Bailie Ferguson to cause draw the said programme, and despatch the same with all possible diligence."

We have then a minute of 12th November, 1700.—"The which day compeared, upon the invitation of the programmes for a dispute for the vacancy of Mr. John Row, late regent, his office, the persons following, and listed themselves for the said dispute—Mr. Wm. Hogg, son to the deceased Mr. Hogg, merchant burghess of Edinburgh, and produced testificates of his behaviour and qualifications; Mr. Charles Erskine, brother-german to the laird of Alva, and produced testificates of his behaviour and qualifications; Kenneth Campbell, servant to the Earl of Argyll, and John Beaton, servant to the laird of Culloden, junior, who produced no testificates. Thereafter the council allowed Mr. Campbell and Mr. Beaton to give in the testifications against Friday next, at twelve of the clock,

with certification not to be allowed to dispute if they fail; and because the council have good reason to suspect that other persons will yet list themselves—therefore they allow any persons to list themselves and give in their testificates, betwixt and the said diet; and appoint Bailie Clark, Dr. Gilbert Rule, principal, and Mr. Wm. Crichton, convener, as a committee to examine these testificates.

“The candidates having drawn lots for the subject matter of their dispute, the lots fell as follows:—viz., No. 5, *De Motu*, to Mr. John Beaton; No. 6, *De Prima Morality Regula*, to Mr. Wm. Hogg; No. 8, *De Materia Divisibilitate*, to Mr. Charles Erskine; No. 9, *De Brutorum Perceptionibus*, to Mr. Kenneth Campbell. Thereafter, the candidates were enjoined to be ready to make a short exposit upon an ode of Pindar, prescribed by the principal, against this day eight days, for a tryal of their knowledge in the Greek; and Council appointed Thursday thereafter for the public dispute.” Mr. Charles Erskine was the fortunate disputant, and in the February following was inducted to the chair; he became afterwards Lord Justice Clerk.

In this broad, large minded manner the Town Council conducted all the affairs of the college, and success rewarded their efforts. But, as I have said, jealousy gradually crept in between the professors on the one hand, and the Council and Surgeons' Corporation on the other; and in the time of the second Munro the difference between the college teachers and Surgeons' Hall had become very bitter, Munro affecting to despise them so much that he, in a sense, apologises to the public for the fact of his father having been a member of theirs.

Between the professors and the surgeons, who in 1778 had been erected into a Royal College, the estrangement increased, and in 1790 a Fellow of the college—the celebrated John Bell—began in opposition to the university to teach anatomy in a building that he had erected adjoining Surgeons' Hall in old Surgeon Square. And this rivalry was then much needed, for the long period of monopoly in medical teaching that the professors had enjoyed was beginning—as all monopolies in the long run do—to tell disastrously on the quality of the work done by the monopolists. The fame of the school was declining, John Bell came to the rescue, and soon acquired a European fame. His still greater brother, Sir Charles Bell, succeeded him in 1799. Other members of the College of Surgeons began to teach, and laid the foundation of that great extra-mural school in which Duncan, and Barclay, and Knox,

and Syme, and Lister, and Fergusson have lectured, and to which, as much as to the university itself, does Edinburgh owe it that for long it has been one of the greatest centres of medical education in the world.

And all this was due very largely to the broad and popular basis on which the university itself rested, for had its government been in the hands alone of the fee-takers within the college walls, the extern teachers would have fared badly in the way of having their classes recognised as qualifying for graduation; but the municipal element in the management effectually kept in check any tendency to narrow dealing in this respect. For forty years after the Town Council had empowered the medical faculty to grant degrees, there was no special course of study prescribed; provided the student passed his examination satisfactorily he got his degree apart from any question as to where or how he had acquired his information. In 1767, for the first time, it was ordained that a definite period should be passed in study—a period of three years—and certain courses of lectures had in that time to be attended. But these compulsory courses were few in number—did not nearly occupy the time of the student—and so there was ample opportunity for extra-mural classes; and during this fortunate condition of affairs John Bell and others began to teach. There was no change of curriculum until 1825, when the number of compulsory classes was greatly increased—one course each of anatomy, chemistry, materia medica, theory and practice of medicine, midwifery, and botany, were required, and any two of the following courses:—practical anatomy, natural history, medical jurisprudence, clinical surgery, and military surgery. The term of study also was increased to four years. As with only eight classes in his curriculum a man was very likely in four years to repeat several of them, it might appear as if, on the whole, extra-mural interests were not in this arrangement altogether overlooked—more especially as attendance at an hospital and any anatomy room was allowed to stand for one of the years. But the Town Council thought otherwise; they considered the monopoly as too complete, and in a few years compelled the college to allow a student, at his option, to take one-third of the curriculum classes with whomsoever he pleased.

While, then, by the united efforts of the teachers in the college and other schools, Edinburgh, as a seat of medical learning, was attaining to a position of usefulness and honour that has never been surpassed, how had medical matters fared in our own city of Glasgow? That scholarly monarch, James VI, who,

in 1582, granted the charter for the University of Edinburgh, founded, seventeen years later, the Faculty of Physicians and Surgeons of Glasgow. He was induced to do so by Peter Lowe, surgeon to himself and to Prince Henry, Duke of Rothesay. The population of Glasgow was then 7,000, and nothing had been done in the way of educating or examining its medical practitioners—a large number of whom were ignorant quacks. Peter Lowe, in giving an account of the matter, says—"It pleased his sacred Majesty to hear my complaint upon certain abuses of our art, of divers sorts and ranks of people, whereof we have good store, and all things failing unthrifths and idle people doe commonly meddle themselves with our art, who ordinarily doe pass without either tryall or punishment. The matter being considered and the abuse weighed by his Majestie and honourable Councill, thought not to be tolerated; for the which I got a priviledge under his Highness' privie seale to try and examine all men upon the art of chirurgerie, to discharge and allow in the West parts of Scotland who are worthy or unworthy to profess the same." This charter or letter of gift was in favour of Peter Lowe and Mr. Robert Hamilton, professor (or doctor) of medicine, granting to them and their successors the right to summon all persons practising surgery in the counties of Lanark, Ayr, Renfrew, and Dumbarton, that they might be examined, and if found qualified, to grant them testimonials or licenses, and to prohibit such as they considered to be unfit to practise in the profession. As regards practitioners in medicine as distinguished from surgeons, they had the right to inspect the diploma or university degree that such might possess; but if this was from "ane famous university where medicine was taught," they could not further interfere with the holder thereof. At that date, of course, all such degrees were necessarily foreign, as no Scotch university then taught medicine. Another duty which they had to fulfil was to inspect the drugs sold in the West of Scotland.

Although this charter was granted in 1599 it was not until the middle of 1602 that the first meeting of Faculty was held. It met in the Church of the Black Friars, afterwards burnt by lightning, but the successor of which was afterwards known as the church of the College Parish, and which has only recently been demolished to make room for the great Goods Station of the Glasgow and South-Western Railway, now being constructed on the east side of High Street. In that old church, on the 3rd of November, 1602, Mr. Peter Lowe and Mr. Robert Hamilton compeared before Sir James Elphin-

stone, the Lord Provost, and Bailies James Forrest, John Anderson, and William Anderson, and to them presented the Charter of the Faculty, and from them received authority to exercise all the rights and privileges therein mentioned, in so far as the city and barony of Glasgow were concerned. At that meeting Peter Lowe and Robert Hamilton admitted as members of the Faculty Adam Fleming, Robert Allason, William Spang, Thomas Thomson, John Lowe, and John Hall, who were to have equal privileges and standing with himself and Hamilton. Mr. Robert Herbertson (notary) was elected clerk, and George Burnet, officer. Mr. Robert Hamilton was made deacon or visitor for the first year.

Under the energetic management of Peter Lowe the Faculty soon got into working order. In lieu of attendance at a medical school, of which then there was nothing of the kind in Scotland, candidates for the Faculty's recognition had to serve with some recognised practitioner a long apprenticeship of seven years; and at the third year he had to undergo an examination by members of the Faculty; at the end of the fifth year another examination had to be undergone, and at the end of the seventh year he had to pass a very thorough examination indeed upon the "whole particulars of his airt; the definition, causes, signes, accidents, and cures of all diseases pertaining to his airt, with the composition of, nature, and fit medicaments as shall be requisite." He had to draw blood, apply the cautery, make up pills, ointments, liniments, &c., in the presence of the examiners, so that a practical and clinical examination at the Faculty is not a thing of yesterday. Last of all, having satisfied the examiners in every respect, he had to pay ten pounds for "ane faculty dinner." There has been a retrogression in this respect, for the present candidates give their examiners no dinner!

About this time, also, the Faculty began to do something in the way of teaching, and appointed that the visitor and certain officers, called quarter-masters, should give instruction on medicine, surgery, and pharmacy. What a pity they began at the wrong end of the curriculum, and that no one in Glasgow had sufficient enterprise to teach anatomy. But in spite of this great overlook of the Faculty, it yet did admirable work, and during the seventeenth and the first half of the eighteenth centuries it was the only centre of medical intelligence and activity in the West of Scotland. It very early began to collect that magnificent library, which is one of the most valuable treasures in the city of Glasgow, and the frequent meetings of the members in their old hall, which then

stood in Trongate, immediately to the West of the Tron Steeple, did much to advance their professional knowledge.

But naturally you ask where, all this time, in medical matters was the University of Glasgow—that ancient institution, founded in 1450, by his Holiness Pope Nicholas the Fifth? It was sound asleep. It does appear that in the first half of the seventeenth century it had *turned* in its sleep, that by 1637 the energetic action of the Faculty of Physicians and Surgeons had so far disturbed its medical lethargy that it effected the task of appointing a professor of medicine, one Mr. Robert Mayne. But it was soon in deepest somnolence again, for, five years subsequently, in connection with a “visitation” to the college there is the following minute:—“Anent the profession of medicine the visitation finds that profession is not necessary for the Colledge in all tyme coming; but, withal, finds it just that Mr. Robert Mayne, who is alreadie in that profession, continue in the same during his tyme.” For a long time now we hear nothing more of medicine in connection with the University. In 1704 a faint ripple appeared on the quiet waters—a part of the College green was converted into a botanic or physic garden. In 1714 a professor of medicine was appointed—Dr. John Johnstone,—and in 1718 another chair was instituted for anatomy and botany,—Dr. Thomas Brisbane was elected to fill this—but these gentlemen did nothing, they were titular professors only. It was not until 1744 that a regular course of medicine was taught in Glasgow, and that was by an extra-mural teacher—the most celebrated extra-mural teacher by far who has ever taught in Glasgow—Dr. William Cullen. In the course of two years, with the consent of the titular professor, he taught his class within the college walls, and in 1751 he succeeded Dr. Johnston in the chair, which he held until 1756, when he went to Edinburgh. In 1742 Dr. Robert Hamilton had followed Dr. Brisbane in the chair of anatomy, which now, on Cullen’s removal to Edinburgh, he resigned that he might step into Cullen’s place. The anatomy chair was then, for a very short period, filled by the great chemist, Dr. Joseph Black, who, in 1758, was succeeded in it by Dr. Thomas Hamilton, who held it for a considerable period, and was followed by his son William, the father of the great metaphysician, Sir William Hamilton, who was born in the professor of anatomy’s house in the old High Street College.

It was not, however, until Dr. Jeffrey, who was appointed in 1790, had been for some years in his chair that students of medicine became at all numerous in Glasgow, and then

speedily began that extra-mural competition, without which no school can acquire other than a parochial position. At a somewhat earlier period, indeed, than that I am now speaking of, efforts had been made in this direction by Andrew Morris, who in 1764 obtained the use of the Faculty Hall in which to teach medicine, and by Dr. Monteath, who, in 1778, began to lecture on midwifery. But these classes did not long continue. In 1799, however, began in earnest, competition with the college, when John Burns opened anatomical rooms in a house at the north-west corner of Virginia Street. In a few years more many others were at work; Dr. Ure, Allan Burns, Granville Pattison, Robert Watt, Wm. M'Kenzie, Robert Hunter, James Gregory, Moses Buchanan, John Armour, Thomas Graham, William Weir, Andrew Buchanan, Frederick Penny, and many other distinguished men—have all taught in the extra-mural school of Glasgow. Most of the present medical professors in the university, and their predecessors for fifty years past, have taught in the extra-mural school.

But at once the question will arise in your minds why, with an extra-mural school, manned by the men I have named to you, has the reputation of Glasgow, as a seat of medical learning, been so far behind that of Edinburgh? These men alone could have given to a school a European reputation—and why didn't they? Because of the action of the University of Glasgow. It did what in it lay to stifle competitive teaching in medicine, and it is to the Faculty of Physicians and Surgeons we owe it that the extra-mural school in Glasgow survived at all. Until so recently as 1875 the Faculty alone in Glasgow recognised attendance at the classes of non-university lecturers. While in Edinburgh the professors had very freely to receive the tickets of their rivals, the university here, being practically a self-governing body, declined absolutely to do so until, as I have said, just the other day—1875.

Most ingeniously were the college regulations framed to stamp out the opposition schools. In Edinburgh, as I have said, prior to 1825, the compulsory courses were few in number, and after that year no one of the courses had to be taken twice; the second course of anatomy—and every student took a second course—might be, and usually was, taken under one or other of the great external teachers whom I spoke of, and there was no university course of surgery, as apart from the professor of anatomy. And yet, as I said, the Town Council believing even this to be too great a monopoly, compelled recognition of outside teaching of one-third of the curriculum classes—at the option of the student. But in Glasgow

every prescribed class had to be taken within the university. And these classes, what were they?—*one* course of anatomy? No, *two* courses. No extra-mural rival was to get any of our college students. And as to chemistry—at that time in Glasgow the non-university teachers of chemistry were so famous that many students, even after a six months' course with the college teacher, would have taken an extra course outside. But the college laws provided for that also. They made him take two courses within the university; they gave him such a dose that even if Lavoisier himself had been alive and teaching in George Street, college students would have given him a very wide berth.

Any one with antiquarian tastes who turns up the old regulations of the University and the Faculty of Physicians and Surgeons, will be struck with a very extraordinary difference that for long existed in the respective requirements of these two bodies. For a period of more than twenty years after the Faculty required clinical medical and surgical instruction, the college laws were dumb on the subject. How was this? Is it possible that the college authorities had accidentally overlooked this pecuniarily profitable corner of the vineyard, or that they had generously abandoned it to extra-mural friends? By no means; but the Royal Infirmary Directors stood in the way, and under the roof of their noble institution would tolerate no selfish monopoly. All the physicians and surgeons in their wards must teach on terms of perfect equality. But this fair and equitable dealing was bitterly resented in the university, which went into the sulks about it, and rather than give the non-university teachers in the infirmary clinical recognition, they allowed men to go up to their examinations for degrees, absolutely without any certificates whatever of attendance on surgical or medical clinical lectures! What did they care whether the men they sent out into the world were qualified or no, when college monopoly would suffer? In all, then, but the recent years of the extra-mural school, when, thanks to the present university authorities, the greatest liberality their statutes allow of prevails; I say in all but the most recent times there were fixed between the student seeking a degree, and the unattached teachers, a gulf that was impassable. What did it advantage him to know that a chemist of the foremost rank was teaching in a room in George Street, when he was compelled to attend the less able teacher in High Street? In so far as the greater number of college students were concerned, Ure, and Graham, and Gregory, and all the others I have named, might as

well have been at Botany Bay. Small wonder was it, then, that Edinburgh should become the favourite resort of students, where the university left them free to select the best teacher, whether within or without the college walls.

The extra-mural school here had to rely for students on its being able to induce gentlemen to come from England and Ireland, who were seeking only the licence of a college of surgeons or apothecaries' hall; and to persuade them to come all the way to Glasgow it had to make its fees exceedingly low, and by this means also it now and then got a few of the very poorest among our home students. But there was one period during which it had a fair chance to do well, as the University of St. Andrews for a time admitted to examinations for its degrees, without residence at any university. Then it was that extra-mural teachers had well attended classes, and had the liberal action of St. Andrews been allowed to continue, it would have been of small consequence whether Glasgow granted recognition or no. But, in 1862, this came to an end, in spite of the remonstrance of the Duke of Argyll and Sir Dun. M'Neil, two of the ablest of the university commissioners; and once more only students whose aspirations were confined to securing a mere license to practise attended the outside teachers.

But the Act of 1858, that closed St. Andrews to non-university students, did not contemplate giving the universities an entire monopoly of medical tuition. It contained clauses empowering each university to allow of two years of the medical curriculum, and any four of the compulsory courses of instruction to be taken, at the option of the student, with extra-mural teachers, recognised for that purpose by the particular university whose degree was sought. And, again, liberality marked the conduct of Edinburgh. Every capable teacher received the fullest and freest recognition possible. What of Glasgow? Illiberal as ever. Not one teacher here did it give recognition to—not for seventeen years did it receive any certificate of attendance from a Glasgow extra-mural teacher. With those at such a distance that competition between it and them was impossible, it was very liberal, and it took certificates very freely from London and Dublin lecturers. Were the Glasgow men, then, inferior to their English or Irish friends? was it because they were incapable that Dr. George Buchanan, Dr. George Macleod, Dr. John Cowan, Dr. William Leishman, and others were then left out in the cold? The supposition is absurd; the true reason lies on the surface; the college men were monopolists; their interests

had to be protected, whatever might become of Glasgow as a seat of medical education.

In the present year the profession in Glasgow has lost one of the most illustrious of its members—Dr. Andrew Buchanan, who, in 1834, spoke as follows on the subject of “Monopolies in Learning” :—

“ But how does this monopoly affect the interests of learning itself? I answer the question by another. I ask what becomes of the man who is interdicted from prosecuting a study to which he has been devoted—I mean virtually interdicted—by being told that the fruits of his study have no marketable value? If he be a rich man, science or literature may lose nothing; he may hold on his course of study incited by the love of truth or by the love of honourable fame. But how seldom is a student rich! As seldom as a rich man is studious. And if the student be not rich, how then does the interdiction operate? Dire necessity, the necessity of seeking subsistence, compels him to have recourse to some lucrative employment which no monopolists have yet absorbed, to labour perhaps no longer with his mind but with his body, or to bestow upon some irksome, because uncongenial, task, the time which it would have been to him the highest, as it would have been the purest human happiness, to have devoted to his favourite study.

“ Monopolies in learning are, therefore, attended with this injurious effect upon learning itself, that they render the cultivators of it necessarily few, driving away from the pursuit of it many who, by their genius, might have shed lustre upon letters, or by their patient research and native force of mind might have extended the boundaries of science; or who, at least, in a humbler, but not a less useful sphere, might have been instrumental in diffusing learning, by imparting to others their mental stores and their habits of mental discipline.

“ But does learning sustain no other evil by being made the subject of a monopoly? It does, and a most serious one. The extent of this additional evil depends upon the condition of the monopoly. Some monopolies are granted to corporate bodies, every member of which possesses the right of teaching, that is, of laying out his powers of mind and his learning to the best advantage. Much more frequently, however, the monopoly is granted to a single person. In the former case, if the members of the corporation be numerous, the love of gold, or the purer love of science or of fame, may excite an honourable competition, and the additional injury done to learning by the monopoly may be little appreciable. But in the latter case,

where there is but one individual who has the right of teaching, how vast is the additional injury !

"Let us first suppose the individual who has the sole privilege of imparting knowledge to have the knowledge to impart, and to possess ordinary talents, or talents superior to the ordinary standard. Yet what incitement has this man to labour? He need fear no competitor treading on his heels. Why put himself to unnecessary pain in making discoveries himself, or in making himself familiar with the discoveries of others? His emoluments are secure, and they are the same, or nearly the same, whether he discharge his duty well, or discharge it ill. Whoever knows human nature, knows what must be the consequences of such a system; and whoever has known the privileged orders among the learned, must have seen its paralysing influences too often exemplified.

"The case just supposed is the least unfavourable to the system we are considering. Let us now suppose that the monopoly has not been bestowed on account of superior talents and learning, but, as often happens, has been obtained by political intrigue, by family connection, by private friendship, by servility, or from the desire on the part of a patron of being rid at the cheapest rate of the importunity of a dependant. The man chosen from such motives cannot be expected to be, in every instance, the best fitted for the duties he has to perform. He may be a grovelling being, who cares nothing for the interests of learning, and only values his important office for the emoluments it brings. To say nothing of moral habits he may be a man of weak intellect. He may be incapable of maintaining authority over a juvenile auditory. He may be destitute of the power of communicating to others the knowledge he possesses; or, last of all, he may not possess the knowledge he is appointed to communicate. In this last circumstance monopolies in learning differ from monopolies of every other kind. All other monopolists must possess a certain stock of the commodity in which they are privileged to trade, for without that their chartered rights could be of no value. The monopolist of learning, on the other hand, if he only have his charter, need not be solicitous as to his stock in trade; for his peculiar privilege is to give, for a price fixed by law or by custom, whatever sort of commodities, and in whatever quantity, he may think fit.

"The additional evils attendant on the monopoly of an individual, in the circumstances last supposed, are too obvious to require comment. Even in the case in which a lack of zeal, on the part of the privileged teacher, is the only deficiency

that can be laid to his charge, it is impossible to estimate the extent and duration of the resulting evils. Those who are taught by a man of this kind cannot catch from his lips an enthusiasm that has no place in his heart, and will most probably, therefore, regard the subject of their studies with indifference or dislike; and since the sentiments of one generation are influenced by those of the generation before it, if the flame be once extinguished the day may be far distant when a worthier successor shall succeed in rekindling it.

"I have thus endeavoured to show that all monopolies in literature and science are most unjust and most injurious to learning. They are unjust, because they trench on the natural rights, which every man born in a free country ought to possess—the right of employing the powers of his mind, like those of his body, to the best advantage; and the right of enjoying, and turning to a fair account, the property which consists in knowledge. They are injurious to learning by rendering the number of those who cultivate it necessarily very small, debarring all besides from any participation in the profits which it yields; and by exerting a most unpropitious influence over the few privileged cultivators of it, secluding them from all salutary competition, and fostering in them bad habits, and ungenerous sentiments, that may through them be transmitted to unborn generations.

"I have only further to say of monopolies in learning, that I do not know any one advantage of any kind whatsoever, with which they are attended, to counterbalance the many and great disadvantages above enumerated; and having said this, I have fully expressed my opinion of these monopolies."

How are these words, spoken by Dr. Buchanan, borne out by the condition of educational matters in the Scottish universities at the present day? Let us for a moment compare, or rather *contrast*, the condition of the Faculties of Medicine in these institutions with their Faculties of Arts. There has never been a complete monopoly in university dealing with medical training—a certain amount of extra-mural teaching has at all times been by one or more of the universities recognised. Extra-mural teaching for graduation in arts has *never* been accepted by Edinburgh, Glasgow, or Aberdeen—and not by St. Andrews for more than fifty years. How, then, does Scotland stand in the estimation of mankind at large, as a teacher of medicine, and as a teacher of the subjects comprised in the Arts curriculum?

In proportion to its population it educates more medical students than any other country in the world. London, with

a population of four millions, and the capital of a country having twenty-five millions of people, has at this moment less than three thousand students in its thirteen medical schools. Edinburgh, with a population of a fifth of a million, and the metropolis—and that only in a subordinate way—of a country of less than four millions, has very nearly two thousand students of medicine. London, to have a like percentage to its population would require to have its three thousand students increased to forty thousand. For many generations the ranks of the profession all over the world have been largely recruited from Scottish schools. The ranks, did I say?—yes, and the higher walks as well. There is not a famous college, or school of medicine, or hospital in Great Britain or the colonies; there is no distinguished medical corporation or society in the English speaking portions of the globe, where Scottish graduates and licentiates have not held their own, and more than their own, in the race for professional position. Every school of medicine of distinction in the metropolis and provinces of England has now, or has had, and will have again, on its professorial staff, men trained north of Tweed.

What of Scotch graduates in arts—men trained under the strictest monopoly in the world. Some English stranger present, I think, inquires do such exist? They do, but we keep them for home use. They don't become professors or tutors at Oxford or Cambridge, or masters at Winchester, Eton, Harrow, or Rugby, or, at all events, not until they have re-graduated elsewhere. I say we keep them for home use—and for the homelier kinds of house use. A Scotch M.A. degree may help a teacher seeking an appointment from a school board, or may be useful even to a minister preaching for a place, but for a classical chair in Scotch university it seldom counts for more than it would do in England. In Edinburgh, ten days ago, they appointed a professor to the Greek chair—he was from Oxford. The Latin professor there is from Oxford. In Glasgow Jebb is from Oxford, and Ramsay from Cambridge.

Are, then, the M.A. pass examinations in Scotland so very inferior in their requirements to those for the English B.A. or M.A.? No, the evil lies not there. It is in the mode of teaching that the Scotch and English universities differ in a most important respect.

Scotland is regarded as a Liberal country—extremely Liberal, almost wholly given over to Radicalism. It is the stronghold of the present government, and Sir Stafford Northcote has been chafed by organs of all shades of political opinion for his teme-

city in undertaking his late crusade against our impregnable loyalty to the Gladstone-Bright-Chamberlain dynasty. His expedition here has been regarded as a practical joke undertaken to relieve the tedium of the late parliamentary recess. He has been looked on as a new Don Quixote, putting his lance in rest and dashing at windmills.

Are we then so very Liberal? In some things, certainly, but not in all. Suppose a native of this radical division of the island decides to graduate in Arts, and for that purpose goes to Edinburgh to prepare himself for the examinations required for that degree. The calendar informs him that amongst other subjects he must pass in Latin. He calls, say this week, at the class room of Professor Sellars to pay his fee. He finds that a hundred gentlemen have been before him, and he will find that another hundred will come after him. He soon sees that during the session he can have but little personal communication with his teacher. Being, we will suppose, desirous of attaining to distinction in this department of learning, he says that he would prefer to pay his fee to some other teacher in Edinburgh, whose class room may chance to be less overcrowded. He is now informed that if he do so he cannot be admitted to the degree, not even if the teacher he were to select be a graduate of Edinburgh, and had been been taught by the professor himself; not even if, in graduating, he took the highest University honours; not even if he be the most distinguished Latin scholar in the kingdom. And equally would our friend be excluded from graduation were he himself to become the foremost man of his day and generation in this subject, unless he fee'd and attended the class of the University Latin monopolist. And in Glasgow or Aberdeen he would fare no better. In each subject of the M.A. curriculum there are in all Scotland but four men whose teaching will qualify—one in Edinburgh, one in Glasgow, one in Aberdeen, and one in St. Andrews. Our aspirant is now in a quandary. He doubts his ability to get up his subject in the exact and comprehensive manner that he desires to do, considering how very little of personal supervision he can get from any of the professors; he comes to doubt even if he may be able to pass the examination for the degree. On this point he makes inquiry—it may be in Glasgow that he inquires—and he is told that four hundred or thereby of students every year join the junior Latin class—that is, enter on a course of study that, at the end of four years, should win for them the M.A. degree. Accordingly, he turns up a recent calendar to see the graduation list for the

year, and is horrified to find that of four hundred who begin the race, not seventy reach the goal.

Alarmed and bewildered, what now will our friend do? He is a patriotic Scotchman; he knows and believes all that his nurse told him about Wallace and Bruce, and the Black Douglas, and the liberty their prowess won for him; and he has read about John Knox and the Covenanters, and he is firmly persuaded that in all the world there are no institutions so liberal as of Caledonia, "stern and wild." It cannot surely be that England could help him; that country so obstinately and so wickedly Conservative. Surely these ultra-tory institutions, Oxford and Cambridge, the very citadels of the enemies of "peace, retrenchment, and reform," must be still more narrow—if that were possible—in their dealings with students than the universities at home? Expecting nothing, he asks, and, amazed, he learns, that in each of these southern universities are more than a score of institutions, colleges, and halls, at any one of which he may take the requisite courses for his degree: and not only so, but in every one of these he has a choice of several teachers for any subject of the curriculum. In these institutions, usually supposed to be the innermost sanctuaries of aristocratic Conservatism, he finds that for centuries free trade in teaching has prevailed, while protection and monopoly still hold an almost universal sway in every trade and profession in the kingdom. And free trade in teaching in Oxford and Cambridge has produced, as in every other walk of life, its one infallible result; it has placed these institutions far ahead of their protectionist rivals.

We are getting to be ashamed of the relative positions that our Scotch Faculties of Arts hold compared with those of England, and remedies are being suggested; but from within the universities the only effectual medicine—free trade in teaching in the arts curriculum—will never be prescribed; and when ordered and prepared independently of the patient, he will resist to the utmost its administration.

Every one who has a sincere interest in the welfare of these ancient institutions will have read with satisfaction the remarks made by Lord Rosebery the other day at Edinburgh, in course of which he expressed a very confident hope that he might, in the coming year, be able to introduce and to carry through Parliament his Bill for the appointment of an Executive Commission for the Scotch universities—a body that would care little for the petty pecuniary or other interests of individuals, but would govern the colleges in the interests

and honour of the nation at large. Before such a body, the arguments in favour of very full recognition of external teaching would be irresistible, and as with the graduates in medicine now and in times past, so also with the graduates in arts then, many of them will become extra-mural teachers, and by honourable rivalry with each other and with those within the college walls, will win for their respective departments of teaching, reputation and position, not less honourable and famous than has so long been enjoyed by the various departments concerned in the teaching of medicine. The executive commission will also at once assume to itself many of the powers at present exercised by the university courts, which are far too much under the influence of the college senates. The graduates may suppose that through their representative they have some share in the deliberations and actions of that body. But, supposing their single representative does look narrowly after the interests of his constituents, he may be altogether out-voted by those members who, from their positions otherwise, are necessarily more interested in the senate—the Principal, who is a member of senate, the Dean of Faculties, who is appointed by the senate, and the direct representative from the senate as well. In a court meeting, where seldom six members are present—usually only five—what chance has one vote against three? But in the election even of this one graduates' representative, every member of the senate has a vote; and as the meetings are held in the college, and as seldom a hundred persons are present, the professors, who number about forty, can, if they please, almost certainly put in as the solitary graduates' member of the court anybody they may desire.

One of the most important duties of the university court is the appointment of examiners for degrees. And if the extra-mural teachers in Glasgow and Edinburgh are true to themselves they will, I think, be able to induce the Commission to introduce, in that particular, various much needed reforms.

Gentlemen, if in the foregoing remarks I have proved that in teaching, competition is as essential as in any other department of human energy and enterprise, I have established the right of this institution, in which we are now assembled, to the friendly regard and sympathy of all who desire the welfare of the Glasgow Medical School. The two other schools at the Andersonian and Royal Infirmary are at too great a distance from the college to render effectively the assistance that I have indicated as being so essential to the continued

and increasing prosperity of even a famous university. This aid the teachers of the Western Medical School will, to the utmost of their ability, supply.

But rumours are in the air that still further help in this direction is about to be afforded. We hear that, after a long and hesitating courtship of the young and royal maid who dwells where once stood the arch-episcopal palace of Glasgow, her somewhat elderly admirer a few months ago offered himself and his fortunes for her acceptance. But, alack-a-day, while he would be Romeo, she would not be Juliet. And so, heart-sick no doubt, we hear it whispered that he seeks an asylum in the west, far from the haughty beauty who drove him from her gates. So far, his cruel guardians have helped him not, but with buttoned pockets have stood idly by. Let us hope their hard hearts may melt, and that speedily he may have suitable lodging in the close vicinity of Gilmorehill. In so far as this school is concerned, it will gladly welcome honourable rivalry.

And now, I must leave to my colleagues, each in his own class, to fulfil a duty that is usually undertaken by the person intrusted with the introductory lecture for the session—that of giving to the students some words of advice as to the manner of conducting their studies for the year: as the other matters that have occupied our time to-day seemed to me, in the peculiar circumstances in which we are met, to have precedence over the topics that are more generally treated of on such occasions. I am sure, however, that every student is already impressed with the great importance of the work that he is now engaged in, or is about to enter upon, and that he will do his utmost to win the approbation of his teachers now, and to be prepared for those high and responsible duties to the public that, in a very few years, he will be called upon to perform.

THE INDICATIONS FOR THE USE OF DIGITALIS.

By J. MILNER FOTHERGILL, M.D., EDIN.,

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THE correct use of this potent remedy—invaluable in certain cases of lack of power in the heart—is scarcely as yet general. Old established views take a great deal of uproot-

ing; and yet they must be uprooted before new views can be built up in their place on the same ground. Digitalis was long regarded as a cardiac sedative—"the opium of the heart;" because it rendered the heart's action slower, or less tumultuous. Slower, certainly, in those cases where the rapidity is due to the action of an irritable muscle; irritable, because becoming exhausted. But when the rapidity of the heart's action is due to nervous disturbances the digitalis is useless, or very nearly so. Digitalis, then, is not useful "because it slows the action of the heart." This is an error. In many cases it exercises no action worth estimating upon the rapidity of the heart's contractions. While in others it is of the greatest service when the action of the heart is not accelerated before its administration, nor slowed while the good effects are being felt. "Less tumultuous," most certainly, in many cases. Where a heart is labouring hard, yet accomplishing little; when the muscle is doing its best to the utmost of its power, but is heavily handicapped; then digitalis will usually calm its action, not, however, by any sedative effect, but by increasing the vigour of the cardiac contractions. In other words, it may be said that digitalis achieves the more complete emptying of the ventricle at each systole; and that is what is wanted in these cases.

Now, sometimes digitalis will both slow the heart's action and do away with palpitation, at one and the same time. This is most commonly seen in simple dilatation of the left ventricle, without necessarily any valvular lesion; the mitral valve may leak, but not as the result of any distortion of the valve curtains, but rather the ostium has stretched with the yielding of the heart muscle, and the valve curtains become insufficient to close the ostium completely on the contraction of the ventricle. Such a condition is common where the dilatation has taken place too swiftly for the valve curtains to stretch *pari passu* with the yielding of the muscle. Here digitalis is usually of priceless value. But its utility will be greatly enhanced here by putting the patient at complete rest; which means, strictly confined to bed—just as much as if the case were one of broken thigh.

"Digitalis is to be given in mitral disease, but withheld in aortic disease," is a rule of thumb driven into the student's mind like a nail into a plank, by some teachers. Well, as a broad rule it is well enough; digitalis is usually of service in mitral disease; but how about aortic disease? When a fairly hypertrophied left ventricle is struggling against a contracted aortic orifice, but not quite successfully; how about digitalis?

The system is suffering for want of arterial blood because the ventricle is unequal to driving *a sufficiency of blood through the narrowed ostium in the normal time* to keep the arteries full. Here digitalis often acts most potently, indeed furnishes the most brilliant illustration of its properties. By increasing the vigour of the driving power—the ventricular contractions—the normal amount of blood is pumped into the arteries in the normal time, and tissue nutrition is improved everywhere; including the structures of the heart itself.

Or aortic regurgitation is dilating the left ventricle too swiftly for hypertrophy to be built up to arrest the dilating process; what is the value of digitalis here? Simply inestimable. It arrests the dilating process; the ventricle recovers its size, and, with that, much of its vigour; the muscle is better nourished, and then that compensatory hypertrophy is built up which often enables the patient to pursue an active life for years.

Certainly, on the other hand, both in aortic stenosis and aortic regurgitation, while the muscular compensation is complete and sufficient, and the patient is fairly well, there is no good end to be attained by giving digitalis. We do not give digitalis because there is valvular disease present; but when the system is suffering in consequence of the said valvular lesion. The digitalis has no influence upon the injured valve. But it is of mighty service when the muscular hyperplasia, which compensates the valvular defect to a great extent, is not provided by the powers of nature. By the aid of digitalis the natural powers will often be enabled to surmount the difficulty and secure a muscular growth, or hypertrophy, which is practically compensatory. Such compensation by muscular hypertrophy is most perfectly seen in aortic stenosis. And on this hangs the good prognosis of aortic stenosis.

It is quite clear that under these circumstances the action of digitalis is powerfully aided (1) by rest, reducing the demand upon the heart; (2) good food to aid in nutrition of the tissues; and (3) iron as a hæmatic. In mitral disease the effect of digitalis upon the right ventricle often leads to most satisfactory results.

Now, when we come to discuss the effects of digitalis upon the right ventricle, there is something more to be considered than the heart merely. There is the respiration! Ordinarily we breathe eighteen times per minute or thereabouts. There are about 250 inches of "residual" air in the thorax, and the act of respiration takes place normally about eighteen times per minute. By such "tidal" air the "residual" air is kept

fairly pure. But when the thoracic space is encroached upon either by (a) air in emphysema; (b) connective tissue in cirrhosis; by (c) diminution of the calibre of the air tubes from thickening of the bronchial lining membrane; or (d) by engorgement of the blood-vessels in mitral disease;* then the respiration must be more frequent in order to keep the residual air fairly pure. The stimulus to respiration is the effect of venous blood, laden with carbonic acid, upon the respiratory centre in the medulla.

When there is an excess of carbonic acid in the blood circulating in this centre, then the respiratory efforts are increased in vigour until the excess of carbonic acid is got rid of. Now, when the right ventricle is embarrassed, it is not usually enough to give digitalis to increase the energy of the contractions of the right ventricle. Though, of course, all medical men of much experience have met with striking illustrations of the almost magical effects of digitalis in the pulmonary engorgement of mitral disease; many also can tell of cases where digitalis failed to afford relief under these circumstances, or even increased the respiratory embarrassment. Now, my rule for some time past has been under these circumstances of mitral lesion, no matter what form, with embarrassed respiration, to give strychnia, a well recognised "respiratory stimulant." (See *International Medical Congress Report*, 1881, vol. i, p. 451.) Here, the effect of the digitalis upon the right ventricle, and that of the strychnia upon the respiratory centre, work together for good with most satisfactory results. The good effects of this combination are conclusively demonstrated in those cases where digitalis, given alone, fails to do good; but where the addition of strychnia at once makes a striking alteration. Such a case occurred to me in November 1881, in the person of a medical man, in Mid-Wales. He had a mitral stenosis, with pulmonary engorgement, and, from cold, some congestion of the lung bases. The breathing was hurried; there was orthopnoea; digitalis had made him worse, and I was telegraphed for. Taking in the position on the line laid down above, I added strychnia to the digitalis with the most gratifying results. The breathing quickly fell in rapidity, and the patient could sleep without being awakened by violent dyspnoea, from the respiratory centre being roused by excess of carbonic acid in the blood circulating in it. (After the blood has been cleared of carbonic acid by violent respiratory efforts, the respiration calms down, and the patient drops off to sleep

* Pleuritic effusions, empyema, morbid growths, and pneumo-thorax need not be added in this illustration.

again. Such nocturnal dyspnoea must be distinguished from the more serious matter of dyspnoea from distension of the right ventricle—a distinction not always made.) Now, under these circumstances, the addition of strychnia, or drug of allied character as ammonia, to digitalis, is of great service. Inversely, when there exists any condition of lung, or bronchiæ by which the respiration is embarrassed, or the thoracic space diminished, then digitalis may be added to the cough mixtures with decided advantage. Whenever the breathing is embarrassed and the radial pulse feeble, while the contractions of the heart are vigorous upon auscultation—a condition which tells that the right side of the heart is labouring—then digitalis may be given with a respiratory stimulant, as ammonia, or nux vomica, or both, to the great relief of the patient. Usually that is; of course, if there be anatomical changes which forbid real relief, then the effects are less palpable. The proper relation of digitalis to stimulants of the respiratory centre is a matter far from being understood as generally as is desirable. I have tried to give it clearly in my essay on “Chronic Bronchitis; its Forms, and their Treatment.”

The indication, then, for digitalis is not a murmur in the heart; nor a certain form of valvular lesion; nor tumultuous action; nor yet rapidity of action; but, as Rosenstein has put it, whenever it is desirable “to fill the arteries and empty the veins.” That is the impression which each student of medicine should form in his mind as to the action of digitalis. If he would do so, the doubts which otherwise may beset his mind in the exigencies of practice will not often embarrass him. To remember Rosenstein’s axiom will serve him well many a time and oft, when in doubt as to what to do—to give or withhold digitalis. Say it is a case of aortic regurgitation: if the arterial system is well filled then digitalis is contra-indicated. But if the wall of the heart be yielding in the later stages, then surely it ought to be given. In almost all cases of mitral lesion digitalis is indicated. But there is another condition in which digitalis is sometimes given with injurious effects which contrasts with these conditions. The hypertrophied gouty heart often palpitates when there is arteriole spasm, and the larger arteries are tense and full of blood. The resistance offered by this full arterial system to the onward flow of the blood at the cardiac systole is such that the ventricle palpitates in its efforts to contract effectually—such a condition is commonly seen in the “chronic Bright’s disease without albuminuria,” so well described by Dr. Mahomed. Here digitalis does no good, but harm; for the arteries are already full to the

risk of apoplexy. Indeed, this last accident has followed the administration of digitalis under these circumstances. The full artery, then, is a contra-indication. Just as much as an empty artery is an indication for the administration of digitalis, —whether the heart be diseased or not.

Digitalis is a diuretic, says another. "Whenever the bulk of urine rises then I know digitalis is doing good. Certainly, if a horse be yoked to a cart previously stationary, and after that the cart be seen moving away, it is a pretty accurate inference that the horse is drawing the cart. The bulk of urine, as Traube taught, is the index of arterial fulness. When the arteries are filled by the action of digitalis the bulk of urine is increased. The rise in the bulk of urine tells in the most unmistakable manner that the action of the drug is filling the arteries. In dropsy, when the bulk of urine is low, and the specific gravity is high, then digitalis is pre-eminently useful. When albuminuria is present from venous engorgement in heart failure, the administration of digitalis will often be followed by its disappearance. As the arteries are filled the veins are depleted; the albumen, which tells of venous congestion, disappears as this state of the veins is relieved; as the arteries are filled the bulk of urine rises.

Such, then, is the clinical aspect of the action of digitalis. In the present article it is bootless to discuss the views as to how digitalis acts. The great matter for the practitioner to remember about digitalis is, that it increases the energy of the ventricular contractions; and that the clinical indication for its administration is an empty artery. Remember Rosenstein's maxim, "digitalis fills the arteries and empties the veins." With such view before his mental vision the practitioner will rarely experience any difficulty in deciding when to give, or when to withhold the potent digitalis—potent for good or harm according to the circumstances under which it is prescribed.

In cases of cerebral anæmia digitalis may often be prescribed with advantage when it is desirable to raise the blood pressure within the arteries.

A CASE OF CONGENITAL MALFORMATION OF
THE HEART.*

By GEO. S. MIDDLETON, M.B.

THIS case presented itself at the dispensary of the Royal Infirmary, complaining of debility, cough, and shortness of breath. The patient, a girl 14½ years of age, was so markedly cyanotic that the question of malformation of the heart was at once raised. The cheeks, lips, tongue, fingers, and toes were all of a blue colour, the lips and the terminal phalanges of the fingers being on this occasion of a very dark hue. It was also noted that these phalanges of the fingers and toes were highly bulbous.

The history of the case, as obtained from the girl's mother, was that she had been blue from birth (at full time); and that she had always been delicate. In her earlier years she had very frequent attacks of breathlessness, ending in syncope, and generally with convulsive movements, chiefly of the hands. When such attacks came on, she was unable to support herself, and would fall if she were standing or sitting. These, as spontaneous attacks, are now less frequent, and more rarely end in syncope; but they are liable to be brought on by exertion or excitement. The blueness of the skin has varied much; when she has been at rest for some time in a warm room, it is little marked; but ascending a stair, exposure in a cold room, or mental excitement, at once renders it very pronounced. She has always been exceedingly sensitive to changes of temperature, and her hands and feet are often cold. She has never had any serious illness, but has been subject to slight attacks of bronchitis, during which she expectorates a white mucus which, within the past year, has at times been streaked with blood. She has never had rheumatic fever. She is very sensitive, and is said to be passionate. At school work she has been very slow. She has never menstruated.

The girl is very diminutive, having more the appearance of ten than of fourteen years of age, and very thin. As already noted, there is marked clubbing of the fingers and toes. Prominence of the eyeballs is also a very striking feature, but there is no enlargement of the thyroid gland. There is no œdema of the feet or elsewhere, and no history of its having occurred. She suffers at times from palpitation. The pulse

* The case was shown at the Clinical and Pathological Society, 10th October, 1882.

generally has been small, weak, and rapid when examined, but has been noted as low as 84, and fairly full. Respiration is quiet.

The cardiac apex beat is diffuse, pulsation being felt in the third, fourth, and fifth interspaces, but, perhaps, most distinctly in the fourth, in the line of the nipple. There is considerable pulsation in the third interspace, close by the sternum, and also a slight thrill. The left margin of cardiac dulness passes through the nipple, and the right margin is about the middle line of the sternum; the upper margin is at the third rib. On auscultation a loud ventricular systolic murmur is heard, which has varied somewhat in its area of distribution. At each examination, however, the centre of its greatest intensity and most superficial character has been in the second left intercostal space close by the sternum, and at the junction of the third left costal cartilage with the sternum. From this point it is conveyed with great distinctness downwards along the left margin of the sternum, to about the fifth rib, and outwards just up to the left nipple. At one examination it was also well heard under the left clavicle, and less loudly at the aortic cartilage; but, generally, it has been only faintly audible at the apex of the heart, at the aortic cartilage, and at the sterno-clavicular articulations. It is inaudible in the carotids and in the interscapular space. The cardiac second sound does not call for remark. There is no epigastric pulsation, and no fulness or pulsation in the veins of the neck. The liver and spleen are normal. The urine has not been obtained for examination.

Examination of the lungs does not elicit any evidence of tubercular disease, which, according to Lebert,* is frequently associated with cardiac malformations. There is no dulness anywhere, and the respiratory murmur is normal. Sonorous râles are heard both in front and behind. There is no history of night-sweats, or diarrhoea. The emaciation of the patient may be partly accounted for by deficiency of her appetite, and even by deficiency of food at times.

The family history is not good; the other members of the family are not robust. The mother says that during the period of gestation she herself was ailing, but it is impossible to learn anything with regard to her ailment with certainty, all that can be elicited being that she "took weak turns."

The history of this case, the highly pronounced character of the cyanosis, and the existence of a murmur, combine to render the diagnosis of congenital malformation of the heart

* *Ziemssen's Handbook*, vol. vi.

an easy one. The difficulty is to determine the exact character of the malformation, if that is possible. With regard to this point, Dr. Peacock says,* that "in those patients who survived the age of twelve, the entrance of the blood into the pulmonary artery was interfered with in 32 out of 39 cases; so that, in any given case of malformation, especially after the age of fifteen, the probability is that the pulmonary artery is contracted." The intensity of the murmur over the pulmonic orifice, and its being conveyed at times towards the left clavicle, seem to indicate that in this case there is stenosis of the pulmonary artery. "If the evidence of obstruction at the pulmonic orifice be tolerably conclusive, we may safely infer there is either a deficiency in the septum of the ventricles, or a patent foramen ovale, for one or other of these defects almost invariably coexists with that condition."† The distribution of the murmur outwards towards the nipple points to deficiency of the septum of the ventricles. If these are the conditions present in this case, it is somewhat remarkable that, after an existence of over fourteen years, they should have given rise to so little evidence of dilatation and hypertrophy of the right ventricle.

CURRENT TOPICS.

ROYAL INFIRMARY MEDICAL SCHOOL. NEW BUILDINGS.—Extra-mural teaching in Glasgow has received a very important development by the opening of the very handsome new buildings erected for the accommodation of the Royal Infirmary School of Medicine. On Wednesday, the 1st of November, these were publicly opened, and, in the evening, a conversazione was given by the Lecturers, at which a large number of medical practitioners from Glasgow and neighbourhood were present. Most of the visitors must have been taken by surprise at the completeness of the arrangements, and we have no doubt that a stimulus will be given to others to emulate the enterprise shown. The following is a description of the new building:—

The building is of a substantial character, being constructed chiefly of stone, but with brick partition walls, foundations

* *On Malformation of the Human Heart*, p. 139.

† Peacock, *l. c.*, p. 140.

and back walls. It is placed with its back towards the Blind Asylum, and thus faces the Surgical House; it has in front a raised terrace, and is separated by a low stone wall and railing from the Infirmary grounds.

The anatomical department is very complete in every respect; the rooms are numerous, well lighted, ventilated, and heated; and the fittings are, throughout, of the latest and most approved construction. The preparation room is situated at the north-east corner, and has a special entrance from the end of the building, in order that no one may be offended by the ingress or egress of anatomical material. It is lined with cement, and floored with concrete, so that there may be a minimum of absorption. The macerating tubs are of enamelled earthenware, and are supplied with hot and cold water; and the water pipes are very large, and are placed beneath the tubs, thus securing that they may not be blocked, and also that the water may be drawn off in whole or in part without disturbing the macerating parts. A large slate bath is provided for washing and heating the subjects before injection, and a slate tank, placed beneath the floor of the room, serves for storage of six or eight subjects; there need, therefore, be no interruption of practical anatomy work, however scarce material may be.

The preparation room is connected with the dissecting room by means of a hoist, and with both dissecting and lecture rooms by a pneumatic bell and speaking tube. The pneumatic bell is also connected with a button in the lecturer's private room, communication being thus rendered easy. The dissecting room is on the upper floor, roof light being essential to dissection. It is 67 feet in length, 25 feet wide, and 24 feet high, is lighted by the roof and by side windows in the north and west walls. By the adoption of the "spinning factory roof" the maximum of light has been obtained without any sun, and as the main side windows face the north, there is never, even in the height of summer, any direct sunlight entering the room; the west windows do not open directly into the main room, but into a position which has been partitioned off to form a private dissecting room. The ventilation is of the simplest description, consisting of an open ridge running the whole length of the two bays into which the roof is divided, covered with perforated zinc, and supplemented by an opening from the corridor above the door of the room; we think it probable that air gratings near the floor in the outer wall will be required if down draughts are to be avoided. Along each side of the room desk cases are placed, containing dissections

and sections of frozen cadavers, mounted in plaster, in the mode which has latterly become so fashionable in anatomical schools; they are very beautiful, and will, no doubt, be of great use to the students. An enamelled earthenware sink and a zinc-covered drainage board, serving for the preparation of the viscera, are placed in a recess, instead of in the centre of the apartment as is generally the case, the sloppy and dirty condition so common in dissecting rooms being thus avoided. The lavatory is placed beneath the gallery of the lecture room, and opens into the dissecting room by a wide arch; it is fitted up with marble-topped wash-basins, and supplied with hot and cold water; there are numerous boxes for students' appliances, and a good supply of coat and hat pegs. The lecture room is entered by the lecturer from the dissecting room, but by the students from a stair in the corridor. It is seated for 150 students, the seats being arranged in a semi-circle, thus ensuring that all shall have their attention fixed on the part demonstrated. The wall at the back of the lecturer is devoted to the black board and diagram frame, the frames being of large size, made of ground glass bedded on a black surface, and fixed to the wall, the latter being a baize-covered frame hung like a sash. The lighting of this room is most satisfactory; the light is chiefly obtained from the roof, but the north and east walls also contribute their share. The anatomical museum is entered from the opposite end of the dissecting room; it has an excellent roof light, and three large side windows. Cases with glass fronts reaching to within three inches of the floor line the walls, a space in one corner being, however, left for a circular stair, should it be at any future period found necessary to put up a light gallery in order to render the upper part of the wall space available. A large counter case occupies the centre of the room, one front of which has glass doors, the other front being fitted with numerous drawers and presses for the storage of specimens and museum appliances. The osteology room is on the entresol floor, beneath the museum, from which room it is in part lighted by glass plates let into the joists; the side light is good, the ventilation rather defective. Here are four baize-covered tables of convenient height for reading, and on them are fixed glass covered stands, containing bones with the muscular attachments marked in colour, each muscle having a printed label. The series is not yet completed, as only the spinal column and bones of the extremities are finished; when all are mounted, they will form a collection having few equals in the schools of Great Britain.

The physiological department consists of three rooms, namely, lecture room, laboratory, and private room. The lecture room and laboratory are separated only by a wooden partition, and communicate by very wide and high double doors,—this arrangement being adopted so as to make the south windows of both rooms available for microscopic work in the practical class. The lecture room is seated for eighty students; is well lighted and heated, and has thus far given great satisfaction. The laboratory will accommodate about fifty students, all of whom will have excellent light, and every convenience for work. The glass cases contain a valuable collection of physiological apparatus, a portion of this having been purchased by means of a donation from Dr. Henry Muirhead. The walls are adorned by the excellent plates from Klein's *Atlas of Histology*, neatly framed, and easy of reference.

The chemical department is on the ground floor. The laboratory has been fitted up in the most recent and approved manner, each table being well supplied with gas and water, and furnished with wash-basins and test appliances. There is also a gas chamber, connected with one of the vents; noxious and offensive gases being in this way easily disposed of. The lecture room is one of the least successful in the building, the seats rising too abruptly, and the book boards being far too high. It is, however, well lighted, and the arrangements of lecture table, black board, and diagram screen could scarcely be improved on; a few modifications will probably remove the faults above commented on.

A large lecture room has been provided to serve for those lecturers who do not require special laboratories or other rooms of like nature. It is seated much in the same manner as the anatomical lecture room, and will accommodate about the same number of students. Being on the ground floor and north side of the building, the lighting was a difficult problem, but by adopting a kind of double glass roof the architect has succeeded beyond what might be expected in obtaining a steady and sufficient lighting.

The students are highly favoured in being provided with a large and comfortable room where they can occupy themselves as they please in the intervals of the classes; opening out of it is a lavatory and water closet lined with white glazed tiles, and floored with a neat pattern of coloured tiles. Here they have wash-basins and urinals; and indeed have comforts and conveniences such as to render a return to their lodgings in the middle of the day unnecessary.

A small laboratory for practical toxicology has been provided, and is fitted up with all the requirements for testing for poisons, and other work of that kind; we hope it may be of use for the furtherance of original investigation in this important branch of medical study.

Private rooms are provided for most of the lecturers, and a private lavatory has been set apart for their use. The building is heated throughout by means of hot water pipes, but there are also fireplaces in most of the rooms.

The funds in the hands of the managers belonging to the school, as announced by Mr. M'Ewen at the opening meeting, amounted to £6,300, but we understand that several donations have been promised since that date. All the accounts have not yet been made up; but it seems probable that the sum mentioned will suffice to cover the cost of building and furnishing; the managers however hope for further donations, as they wish if possible to endow the more important lectureships and to provide funds for the purchase of museum specimens, apparatus, &c.

THE DEATH FROM CHLOROFORM IN GREENOCK.—Sheriff Smith has just issued his formal decision in this case. It will be remembered that Henry Morrison, plasterer, 10 Kelly Street, Greenock, sued Niven Gordon Cluckie, oculist to the trustees of the Ferguson Eye Bequest, and David R. Dobie, house surgeon of the Greenock Infirmary, for £500 as damages. The pursuer alleged that the defenders, without precaution, administered to his child, Ann Morrison, 12 years of age, an overdose or overdoses of chloroform prior to her undergoing an operation on the eye, and thereby caused her death. At the close of the proof a few weeks ago, Sheriff Smith delivered a preliminary oral judgment assailing the defenders. In his interlocutor, his Lordship finds, *inter alia*, that the girl was suffering from a tumour in the eye for about twelve weeks prior to 29th May last; that Dr. Cluckie, being of opinion that an operation was necessary for the removal of the tumour, informed the child's mother of that necessity on 26th May; that the mother consented to the operation, and that it was arranged to perform it on the following day; that with the mother's consent the operation was postponed till the 29th May; that the operation was of a delicate nature, for the success of which chloroform was essential; that Dr. Cluckie spoke to the child's mother about chloroform, and that he intended

to convey to her, and used language that might have conveyed to her, the information that chloroform would be used, but that she swears she did not so understand Dr. Cluckie's language; that the pursuer, his wife, and the child conversed about the operation and the use of chloroform on 28th May, but they made no objections to its use; that on 29th May the mother took the child to the Infirmary, and that Dr. Dobie administered the chloroform, while it was Dr. Cluckie's business to operate on the tumour; that both the defenders are duly qualified practitioners; that chloroform was administered in the usual and proper way, and with due care and skill, but that the child died from syncope during its administration, and before the tumour could be removed; that both defenders, aided by the nurse and others, used every exertion to restore animation to the child; that the child died from causes entirely beyond human foresight or control. Finds in law that the defenders are in no respect answerable for the child's death; thereafter assolizies the defenders, and finds them entitled to expenses. In a note, the Sheriff, after alluding to the medical evidence in the proof, says that the pursuer maintains that Drs. Cluckie and Dobie are responsible to him for the loss of his child, because, as he alleges, they administered the chloroform without his sanction and approval. The Sheriff-Substitute cannot acquiesce in that proposition. He thinks that it has been already proved that the pursuer knew that the use of chloroform was contemplated. If he objected to the use of the drug he should have seen Dr. Cluckie and explained that to him, or caused his wife to do so. But further, the Sheriff-Substitute thinks that reason and fair-play to the medical profession justify the position taken on the matter by Professor Macleod, of Glasgow, and the other professional witnesses. They say that the administration of chloroform forms part of the operation, and the operators require no express sanction authorising them to administer it. It was impossible to doubt that the child's father and mother would, had they been formally consulted, have told the doctors to use the means which were, humanly speaking, the most likely to secure the child's welfare. Be this as it may, the Sheriff-Substitute thinks that every allowance ought to be made for the pursuer and his wife; and he is sure the defenders themselves feel, as he does, the deepest sympathy with them. They have, one might say, a right to be unreasonable, and it is not surprising to see them sorrowing so deeply that they find it impossible to submit quietly to

the blow that has fallen, and that they impute to human ignorance or rashness what was nothing less than a visitation of God.

We are glad to learn that the Medico-Chirurgical Society of Glasgow have opened a Subscription List to defray the legal expenses of Drs. Cluckie and Dobie. Subscriptions not to exceed 20s.

DR. CASSELLS' translation of Professor Politzer's *Lehrbuch der Ohrenheilkunde* was published at the end of October in England and America simultaneously, under the title of *Politzer's Text-Book of the Diseases of the Ear and Adjacent Organs*. This book, in one volume of 800 pages, has 257 original illustrations, and contains all the matter of Professor Politzer's work, which was published in Stuttgart in two volumes (1878-82). It therefore treats of the science of Otology in the fullest and most complete manner. It is adapted for the use of students and general practitioners.

GLASGOW DRAFT POLICE BILL—CLAUSES REGARDING COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES.—The Glasgow Draft Police Bill is meeting on all hands with opposition so strenuous that many of its provisions must be considerably altered before they are reduced to that final form in which they are to be presented to Parliament. The part of the proposed Bill to which medical men naturally turn is that dealing with sanitary matters; and here the most striking change which the authorities seek to introduce has reference to the notification of infectious diseases. The principle of dual responsibility is aimed at, notification to the sanitary authorities by both householder and medical attendant being made compulsory, under a considerable and a cumulative penalty. It is this dual responsibility which is most objected to by the profession, the mind of which has already been very clearly indicated by discussions at our various local medical societies; while at a recent meeting the Faculty of Physicians and Surgeons adopted a resolution hostile to the notification clauses as they stand in the Draft Bill, and appointed a committee to draw up a memorial to the Town Council on the subject and in that sense.

A meeting representative of the medical profession in Glasgow and neighbourhood, was held in the Faculty Hall on Friday, 24th November, for the purpose of discussing these

notification clauses. Dr. Scott Orr, the President of the Faculty, was in the chair. In his opening remarks, he said that the subject of notification of infectious diseases had occupied the attention of the medical profession for a considerable time, and last spring three separate bills were brought into Parliament, two of which were applicable to Ireland. One of those was a permissive bill, in so far that the medical officer might report or not, as he thought proper. At the time the bills referred to were brought up the question was fully discussed, and the almost unanimous feeling of the medical profession was that the notification of infectious diseases should be placed on the householder. Since then the Police Bill had been formulated, which the Town Council were now engaged in discussing, and which they seemed disposed to push forward with somewhat undue haste.

DR. FERGUS thought the Bill should not be proceeded with, seeing that the Lord Advocate had pledged himself and the Government to bring in a measure which ought to satisfy any ordinary municipal body. He proposed—"That this meeting of medical practitioners desires to record its support to the principle of compulsory notification of infectious diseases by the householder or head of the family, in all cases in which the medical officer of health devotes all his time to the duties of his office."

The motion was seconded by DR. JAS. MORTON, and unanimously agreed to.

DR. DUNCAN afterwards proposed—"That this meeting considers the proposal in sub-clause IV, to enforce the duty of notification of infectious diseases upon the medical practitioner in attendance on such cases, to be against the interests both of the public and of the profession of medicine." He was, he said, quite satisfied that the Town Council of Glasgow had the interests of the public at heart, and that the majority of its members were imbued with a spirit of moderation and justice. He thought, however, that on the question of notification the framers of the Bill had an erroneous impression, and that that duty should devolve on the householder.

DR. KELLY seconded the resolution.

DR. J. FRANCIS SUTHERLAND proposed an amendment as follows:—"That this meeting approves of the principle of compulsory notification of infectious diseases by the medical practitioner as well as by the householder or head of the family, thus establishing the principle of dual responsibility." This was seconded by DR. WM. L. MUIR, but on a vote the motion was carried by a large majority.

DR. M'CALL ANDERSON submitted the third resolution, as follows:—"That we, as medical practitioners, have always striven to check the spread of infectious diseases; and we now record our willingness to further aid persons affected by such disease, or their guardians, in performing their duty to the Local Authority in this matter by furnishing them with written certificates as to the nature of their malady, provided that we be adequately remunerated for this additional service by the Local Authority." In support of the resolution, he said he would have preferred to have no compulsion and no remuneration, but if they were to have compulsion there should be some clause in the Bill to protect the members of the medical profession from worry and loss in the discharge of their duty.

DR. PERRY seconded the resolution, which was agreed to.

A large committee was afterwards appointed to wait on the Town Council, for the purpose of urging the necessity for modification of the draft Bill in accordance with the above resolutions.

It is to be hoped that the Glasgow practitioners, like those in Liverpool, may be successful in their opposition to the proposal to impose "dual responsibility" in this matter on the inhabitants of Glasgow.

REVIEWS.

Manual of Pathological Histology. By CORNIL and RANVIER.

Second Edition, re-edited and enlarged. Translated with the approval of the authors by A. M. HART. Vol. I. General Pathological Histology. London: Smith, Elder & Co. 1882.

FOR a long time one of the great deficiencies in our medical literature has been the want of a good text book in English on Pathology. In saying this we do not wish to detract in the least from the merits of the existing books, which in their way are excellent, but in many regards not suitable for the student of modern pathology, a subject advancing with rapid strides almost every day. Such being the state of matters in this regard, the appearance of the present work was anxiously looked for by students and others, as likely to meet this want.

After a careful perusal of the volume, however, the conclusion to which we have come, is that, while the work as a whole is a most excellent one, and will in all probability be welcomed as a valuable addition to the libraries of all British pathologists, it is not likely to receive much favour at the hands of students as a text book. There are various reasons, we think, for this—the following amongst others. The book is too large, and too full of the most minute anatomical and histological detail, which qualities are not so much required by the ordinary student of medicine, at least in its present stage, as a clear and concise account of the great general principles and laws of pathology. Thus, while the great detail, in which almost every department of pathological histology is treated, is the very thing which will render the book of service to the professed pathologist, it also constitutes the main reason why it is not likely to be so serviceable to the student. The work, too, is, we think, to be looked upon as expounding the views of the modern French school of pathology, which, in many points, are at variance with the teaching both of the British and German schools. For this reason, also, the volume is not likely to be prized as a text book by the English student, while its value to the pathologist may thus be increased. Notwithstanding this, there can be no doubt of the value and high standing of the book as a great work on pathological anatomy, as which it has always been regarded ever since its first appearance in the original in 1869.

It is impossible, in the space at our command, to give anything like a complete account of its contents and character; but we shall endeavour, in a brief and general way, to point out how the subject has been treated, referring at greater length to those points which we consider doubtful or capable of a different interpretation.

The volume is divided into two parts, Part I discussing general pathological anatomy, and Part II the lesions of the tissues. Chapter I of the first part gives a summary of normal histology, and forms a very excellent introduction to the work. At the end of the chapter, in the form of a note, the translator gives a very good account of the hæmacytometers of Gowers and Malassez, which will be found very useful by those who are in the habit of working with such instruments. Chapter II is entitled "General Considerations on Pathological Histology—Morbid Changes in the Cells and Tissues." It discusses first the lesions of the elements and tissues. In discussing amyloid infiltration it is said, "It is

diffused through cells, and finally destroys them. . . . But the tissue most subject to this kind of degeneration is the smooth muscular tissue of the small arteries and the walls of the capillaries." We think the latter sentence of this quotation is strictly correct, but doubt if amyloid degeneration ever, primarily at least, begins in the cells of a part. Secondly, "Formative Lesions; New Formations of Cells," are discussed. Under this heading is shown the "confusion of ideas" which is apt to rise from the terms *Hyperplasia* and *Heteroplasia* as used by Virchow, but we cannot entirely agree with the authors when they make use of the following sentence:—"What we have just said of cartilage may be applied to connective and all other tissues, and shows the inanity of the words *hyperplasia* and *heteroplasia*." And we think that the confusion would not be so apt to arise if the terms were confined to pathology.

The subject of Inflammation is considered in the third chapter. After alluding to the difficulty of defining inflammation, the following definition is given:—"We define *inflammation as a series of phenomena observed in the tissues or organs, analogous to those produced artificially in the same parts by the action of a physical or chemical irritant*." We do not consider this as of very much value as a definition, because it fails entirely to give us any notion of what the phenomena, so produced, are. In the account which follows, much more stress is laid upon the part played by the connective tissue elements than by the vessels. The term *Diapedesis* is applied to transudation from the vessels of both white and red blood corpuscles. We think the term should be entirely confined to the passage of the red blood corpuscles, and emigration, as implying an active process, used when we wish to speak of exudation of leucocytes. We cannot agree in the least with the authors in the following:—"Diapedesis of the white corpuscles being thus a physiological phenomenon, it cannot of itself alone characterise inflammation as Cohnheim at first maintained. But inflammation is not a specific phenomenon; it should be considered, as we have already said, as an exaggeration of physiological phenomena, exaggeration of the nutrition, and formation of cellular elements and of diapedesis. The latter is little characteristic of inflammation, for inflammation occurs in tissues containing no blood-vessels for example, in cartilage, investing endothelium, and the cornea, and among these tissues there are even some, such as cartilage, in which the migration of cells is impossible." While we freely admit that the action of the vessels is by no means all that is involved in inflammation, we

cannot admit that it is a mere "exaggeration of physiological phenomena," involving, as it does, deterioration, and in some cases actual death, not only of the vessel wall, but of the connective tissues themselves, and depending upon a specific cause, the presence of an irritant.

Tumours are discussed in the fourth chapter, and first of all the definition and classification of tumours are considered. A tumour is defined as "*any mass composed of a tissue of new formation (neoplasm) which has the tendency to persist or increase in size.*" The laws applied by J. Müller and Virchow to tumours are fully discussed, and the authors are right in regarding Virchow as having assumed more than he was warranted when he said that the elements of a tumour "*are derived from the cells of connective tissue.*" Under the heading of the classification of tumours those proposed by Virchow and Förster are fully criticised. The authors cannot see their way to accept the classification of either, and give one of their own on a histological basis, which divides all tumours under ten groups. We own, however, to having a decided preference for the classification advanced by Förster.

The first group in their classification "comprises tumours formed of a tissue analogous to embryonic tissue," and contains the "genus sarcoma." The second contains tumours formed of a tissue the type of which is found in connective tissue, and includes "*carcinoma*, which would be better called *alveolar fibroma*." This mode of classifying cancers appears to us very strange, as we have always regarded, and we think rightly, carcinoma to be a tumour based on the type of epithelial tissue. This view, however, is not taken by the authors, who regard it as based on the connective tissue type, the tissue having undergone "hypertrophic aberration affecting the size of the cells." This second group also contains other tumours, whose "cells atrophy, as in *tubercle*, *glanders*, and *syphilitic gummata*." We regard these latter conditions to be rightly called tumours, because we believe them to be the result of a specific inflammation, but we do not think the authors are justified in calling them so according to the definition of tumours they have given. In that definition we have seen that it is an essential point that the tissue should "persist" or "increase in size." Now, this is the very thing that they do not do, one of their most constant features being a tendency to break down and degenerate, leaving cavities as in the lungs, ulcers as in the bowels, and cicatrices as in the liver, and thus resembling very much the progress of many inflammatory products. The

other groups of this classification include tumours based on the cartilaginous, osseous, muscular tissues, &c., and group 10 contains "mixed tumours." Such a classification, as is acknowledged by the writers, is of very little clinical service.

Passing on to the detailed account given of carcinoma, we find it stated that such tumours find their type in the connective tissues, because they belong "to them by reason of their origin, their mode of development, their constitution, and particularly their stroma, the essential element in their definition." This is certainly not what we in this country have been taught as to the pathology of cancer, and we have always regarded the cells of a cancer as of the epithelial, and not of the connective tissue type. With regard to the development of carcinoma, it is said that at the beginning the same phenomena as in inflammation are observed—viz., the formation of embryonic tissue. "Soon, however, the embryonic tissue is transformed into fibrous tissue, which is the second or fibrous phase. The cells contained in the fibrous trabeculae give origin to a more or less considerable number of small cells, which are in close contact and packed together in a small space; by multiplying, these cells enlarge the spaces containing them and assist in the formation of the first alveoli of carcinoma." These remarks apply to the "development of primary carcinoma" in bone, and, it is added, "in the mamma a similar development is observed." Now, we are not in a position to accept this as an altogether correct statement of the facts. It is quite right, of course, from the point of view that cancer is a connective tissue growth, but that, in the first place, we very much doubt; on the other hand, we have always regarded the embryonic tissue seen at the margins of carcinomatous tumours as largely evidence of the irritation produced by the tumour, and not as the first stage in the formation of a new portion of it. Another point advanced as lending support to this view is that in inflammation of a cancer the cells in the alveoli take the embryonic form; but until it can be proved that this formation of granulation tissue is not really due to the connective tissue cells and blood-vessels of the walls of the alveoli, we cannot regard this statement as of much weight as a point of evidence. At the end of the article the following occurs:—"Carcinoma is developed primarily in all the organs, but viscera lined by mucous membrane and glands, especially the stomach, uterus, and breast, are more frequently attacked by it." The first part of this sentence appears to us to be of doubtful accuracy, but the second seems to go a long way towards proving that the primary origin of

cancer cells may be after all the epithelium of the "mucous membrane and glands."

In the article on epithelioma, we find that the authors are not inclined to accept Thiersch's opinion "that all epithelium is produced from previously existing epithelial cells," and advance against it the fact that epithelium may originate on the surface of granulations, and in fistulæ. We must confess, however, that it seems more easy to us to explain this phenomenon in Thiersch's way than in that here advanced—viz., the formation of the epithelium from embryonic tissue. It is not at all unlikely that there may be here and there, on the granulating surface, a few epithelial cells remaining, which are quite capable of giving rise to epithelium: and further, that under such circumstances a great deal may be accomplished by the creeping inwards of the marginal epithelium. The operation of skin grafting, which often succeeds in covering with epithelium a raw surface when all else has failed, also militates against this view. In fact, we think that all through the section on tumours, the authors have attributed far too much originative power to embryonic tissue, and that, in many of the cases where embryonic tissue is described at the margin of a new growth, we have to deal with nothing more than granulation tissue, caused by the irritation of the tumour, which has no special formative power.

At the end of the chapter, a very exhaustive analytical table has been drawn up to aid in making the anatomical diagnosis of tumours, but we cannot think that it is likely to be of great practical service. In fact, in the present state of pathological knowledge, we do not think that it is possible to adhere to a hard and fast histological classification, but would much prefer one in which a judicious combination of the anatomical with the clinical had been made.

Part II describes in great detail the lesions of the tissues, and forms a very excellent account of the pathological changes which the various tissues undergo in the different forms of disease. The space at our disposal forbids our criticising in detail many of the points in this part of the work; but we would specially refer the reader to the sections on Caries, Rickets, White Swelling, and the Pathological Changes of the Blood, as being of great value, and differing in some points from the usual teaching of British pathology.

The translator has evidently done her work well, and we can heartily recommend the book to all who are interested in the study of pathological histology.—J. L. S.

The Surgical Treatment of Hæmorrhoids. By WALTER WHITEHEAD, F.R.S.C.E., &c. London: J. & A. Churchill. 1882.

THIS small *brochure* of fifteen pages is an example of the class of medical works published apparently rather for the purpose of bringing patients to the writers than of adding to our store of scientific knowledge. The author has revived the old practice of excising hæmorrhoids, and is rejoiced at the success which has attended his efforts. He has, however, improved upon the older methods by dissecting off the mucous membrane from the base of the piles, twisting the latter by means of a pair of ring forceps, and completing the operation by bringing together and stitching the edges of the membrane. He thus avoids hæmorrhage, and lessens the risk of stricture from subsequent contraction.

Lectures on the Pathology and Treatment of Lateral and other forms of Curvature of the Spine. By WILLIAM ADAMS, F.R.C.S. Second edition. London: J. & A. Churchill. 1882.

THIS is, in all essential particulars, a reprint of the first edition, published nearly twenty years ago. The changes in the body of the work are few, and none of them of any importance, but a supplementary chapter, treating of the application of the plaster of Paris jacket by Sayre's method, shows that Mr. Adams is not entirely oblivious of the fact that others have, during this long period, been doing work in the same field. There is also added a reprint from the *Medico-Chirurgical Transactions* for 1854 of a paper by himself and Dr. Hodgkin, detailing the case of Dr. Gideon Mantel, the celebrated geologist; the particulars are interesting on account of the disease being an extreme form of rotation of the vertebræ, which had not given rise during life to any suspicion of the existence of curvature. Mr. Adams still holds to his position that no normal lateral curve exists, and in proof of this says:—"In the course of my experience in making *post-mortem* examinations during the twelve years—from 1842 to 1854—in which I filled the office of demonstrator of morbid anatomy at St. Thomas' Hospital, I habitually examined the spine after eviscerating the bodies, and remarked the great rarity instead of the frequency of any lateral deviation. Working in this great field for so long a period, I obtained but few specimens of spinal curvature for

dissection." This is strangely in contrast with the observations of the late Dr. Foulis, who, in 110 *post-mortem* examinations, found lateral deviation in no less than 58, and the contrast is intensified by the fact that lateral curvature as a disease is less common in Scotland than in England; indeed, in hospital practice in the former it is rather a rare affection. Mr. Adams holds that Sayre's jacket is unfitted for the treatment of lateral spinal curvature, and this opinion thoroughly consists with his views of the causation of the disease. For if it be true, as he maintains, that the cause is purely mechanical, and the result of faulty position and the like, it is evident that any treatment which continuously fixes the spine must tend to weaken the muscles, and must hinder the use of gymnastic exercises, of the value of which he is so thoroughly convinced.

Everything Mr. Adams writes is so philosophical in spirit and well worked out in detail, that we cannot but regret he has not subjected this work to a more thorough revision, in the light of recent research and the investigations of other orthopædists.

Lectures on Medical Nursing. By J. WALLACE ANDERSON, M.D. James Maclehose & Sons, Glasgow. 1882.

THIS book consists of ten lectures, which originally formed part of a course of lectures delivered at regular intervals to the nurses of the Glasgow Royal Infirmary. They are pleasantly and well written, and convey a large amount of most useful information in a form likely to be very acceptable to those for whom they are intended. The value of the book is much increased by an appendix containing recipes for invalid cookery, directions for the preparation of peptonised foods, a list of poisons and antidotes, a table of weights and measures, and a glossary of medical terms. This appendix could have been made fuller with great advantage.

We were somewhat doubtful of the utility of a book on nursing, particularly medical nursing. A good deal of the instruction given must, we suppose, necessarily consist of a condensed survey of medical knowledge, which might well be a dangerous thing to a superficial learner. But a work such as this, combined with practical experience, will be of great service to the thoughtful and intelligent nurse. Dr. Anderson has succeeded in making the most of his materials, and in producing a modest well written book.

REPORTS OF HOSPITAL AND PRIVATE
PRACTICE.

GLASGOW ROYAL INFIRMARY.

REPORTS UNDER THE SUPERVISION OF DR. J. A. ADAMS.

DR. PERRY'S WARDS.

SEVERE HÆMATEMESIS.—[Reported by Fred. V. Adams, L.R.C.P.Ed.] This case is interesting chiefly on account of the enormous loss of blood the man suffered prior to his death.

W. W., æt. 49, a labourer, was admitted to Dr. Perry's wards on 12th June, complaining of vomiting blood and of pain round lower part of abdomen, and between the shoulders. These pains began gradually two weeks prior to admission, and he stated that on 7th June he vomited nearly six quarts of blood, and passed between two and three quarts by the bowels. Previous to this he never had had a pain or an ache.

On admission the temperature was 102·4° F.; the pulse was 96 and regular, and there was a roughening of the first cardiac sound. The appetite was bad and the tongue was furred. He complained of great thirst, of frontal headache and sleeplessness. He also volunteered the statement that he had been a heavy drinker, and while on foreign service for ten years as a soldier he had suffered from ague. The hepatic dulness was found on careful examination to be increased.

On 14th June he vomited 36 ounces of pure blood, while over 8 ounces passed by the bowels. To check this hæmorrhage ergotine was employed subcutaneously. On 15th June he vomited five times, bringing up altogether 74 ounces of blood. That same day he died at 12 P.M., being quite conscious till the end, and making no complaint of any pain. For an hour prior to death the radial pulse was imperceptible, and the heart sounds were weak and hurried.

Post-mortem.—The body appeared well nourished, and the only external indication of disease was a varicose condition of the veins of the leg. The *pericardium* was thickened and contained two ounces of pale straw-coloured fluid. The *heart* weighed 13 ounces, but there was no valvular disease. The *aorta*, however, was atheromatous. The *liver* weighed 70

ounces, and was firmly attached by strong adhesions to the diaphragm. The surface of the gland was nodular, while the substance was acutely congested. The substance of the right lobe was greyish-white in colour, and of very soft consistence. The *spleen* was enlarged, weighing 19 ounces, and its capsule was thickened. The *kidneys* seemed normal. The right weighed 8, and the left 6 ounces. The *stomach* was much distended. The mucous membrane was turgid, while a portion of it towards the pylorus was black in colour. There was no ulceration. The *intestines* were also very turgid, and distended with blood.

From the examination it was concluded that death was probably due to the formation of an abscess in the liver, and to hæmorrhage from portal obstruction.

WESTERN INFIRMARY.

REPORTS UNDER THE SUPERVISION OF J. LINDSAY STEVEN, M.B.

FROM PROFESSOR Mc'CALL ANDERSON'S WARDS.

NOTES OF A CASE OF PUERPERAL PERITONITIS, WITH PURULENT EFFUSION, TERMINATING IN RECOVERY.—[Reported by J. W. Grange, M.B.]—Mrs. C., æt. 31, was admitted on the 17th April, 1882, complaining of considerable pain in her abdomen, which was greatly enlarged and fluctuant. She had slight diarrhœa, and the motions were frequently accompanied by a discharge of blood. Her pulse was small and wiry, numbering 120 to 140 per minute. There was a difference of 3° or 4° between the morning and evening temperatures, the latter being 102° F. or 103° F. Weakness was a very marked symptom, but both at this time, and throughout her whole illness, her appetite was remarkably good. She had a cough, and on examination of her lungs signs of pleuritic effusion were found at both bases. Abundant mucous râles were also heard accompanying the distant breath sounds.

The following is a brief history of the case previous to admission:—On the 26th March, she was delivered of a child. Everything was quite normal, and she made a very good recovery. On the seventh day after her confinement, she got up and attended to her household duties. The following day severe constant pain came on in the abdomen, accompanied by

diarrhoea, vomiting, and high temperature. This continued for a fortnight, when, on the 15th April, the diarrhoea was stopped by medicines. After this the pain became more severe, the abdomen began to swell, cough came on, and considerable dyspnoea was complained of.

Her family history was good, and previous to this illness she had been in very good health. There were, however, cicatrices on the sides of her neck, the result of strumous suppurations during childhood. She had been married five years, and had only one child. She had a miscarriage three years ago, at which time she lost a considerable quantity of blood.

After admission, her condition remained almost unchanged until the 9th May, when the abdomen, which measured 40 inches in circumference at the level of the umbilicus, was tapped with Southey's trochar and cannula, and during the four days the cannula was in position, 236 oz. of thin semi-purulent fluid drained away; after which, the abdomen measured 33 inches. She improved very much, and the temperature, on the 17th May, was normal. Fluctuation was, however, still present, and there was considerable tenderness over the left lobe of the liver, which felt firm and hard. On the 25th May the abdomen (measuring 35½ inches) was again tapped, and 156 oz. of purulent fluid removed; also on the 8th June, when 176 oz. were withdrawn. The benefit derived from tapping was very temporary, the thickness of the fluid increasing every successive tapping, on the last occasion being pure pus. The condition of the lungs remained almost unchanged, and night sweats were very severe. For this she got as much as $\frac{1}{8}$ gr. of sulphate of atropia every night without any benefit; but atropia and morphia combined almost entirely stopped it.

On the 26th July the abdomen measured 34 inches, and a hard tumour was felt to the left of the middle line, in which indistinct fluctuation was present. An incision was made into this by Dr. Buchanan, and about 100 oz. of thick pus evacuated. A drainage tube was inserted and antiseptic dressings applied. These, however, were used in order to obviate the necessity of frequent dressing, as there was a strong suspicion of the pus being putrid when the incision was made. There was little or no discharge after the first three or four days, and the recovery of the patient has been uninterrupted. The drainage tube was gradually shortened, and finally taken out on the 15th October, there being no discharge. At that date the condition of her lungs was very

satisfactory, the dulness at the bases having almost disappeared, cough and expectoration being slight. Her temperature was normal, and she was able to go out for a walk daily. Her urine never contained any albumen.

She was dismissed on the 23rd October with the incision in the abdomen perfectly healed.

FROM PROFESSOR GEORGE BUCHANAN'S WARD.

THE following cases of interest were under the care of Dr. Crawford Renton, during Dr. Buchanan's absence.

J. C., æt. 37, was admitted on 13th August, suffering from malignant disease of the left side of the tongue, and floor of the mouth. A portion of his tongue was removed some months ago by Dr. Buchanan, but the disease returned to the floor of the mouth and involved the glands, so that it was impossible to remove it. The pain and salivation were so distressing that it was decided to divide the gustatory nerve. This Dr. Renton did, by the method recommended by Moore, as follows:—"Enter the point of a curved bistoury into the mucous membrane of the mouth, three quarters of an inch behind and below the last molar tooth, and cutting down to the bone the nerve must be divided."

Immediate relief to the pain and salivation followed, and the patient was able to sleep with comfort.

On enquiring about this patient, in the middle of October, he states that he has had no return of the pain on that side:

OSTEOTOMIES.—G. L., æt. 23, admitted 19th August, with genu valgum, the heels being 24 inches apart when the patient lay on his back with his legs extended.

21st August.—M'Ewen's operation practised on the left femur.

31st August.—The same operation performed on the right limb.

2nd November.—Dismissed with his heels close together and both limbs straight.

A. A., aged nine, admitted 5th August, with genu valgum in the left limb and curved tibiæ.

12th August.—Femur divided in the left leg.

19th August.—A wedge was removed from the tibia, and the fibula cut in the right leg.

16th September.—A wedge was also removed from the left leg, and the fibula cut through.

31st October.—Dismissed well.

M. H., æt. 11, admitted 5th August with genu valgum in both.

M'Ewen's operation was performed on both femora, and the patient dismissed on 29th September with straight limbs.

TWO CASES OF INGUINAL HERNIA.—J. R., admitted 17th August, with well marked symptoms of strangulated inguinal hernia. In Dr. Renton's absence, Dr. Patterson operated, and found the bowel apparently gangrenous. With little hope of success it was returned. The patient progressed without a bad symptom, and was dismissed on 10th September.

J. B. was admitted on the evening of the same day, with strangulated inguinal herina. This was the third time he had been in hospital with the same ailment, and on the same side (right). Dr. Renton operated, and returned the bowel, which had come into the canal directly. A catgut drain was used in this as in the above case also, with Lister's dressings, and the patient made a good recovery.

TWO CASES OF NÆVUS.—A. L., æt. one year, was seen at the Dispensary, suffering from a large nævus of the nose. Being extensive, the thermo-cautery was used, the point being plunged into the substance of the vascular tissue from the mucous surface of the nose. This was repeated on four occasions, with the result that the growth shrivelled, leaving the child with a much more respectable organ.

R. J., æt. 2, was seen with a nævus of the middle third of the upper lip and septum of the nose. A few applications of thermo-cautery destroyed the growth.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1882-83.

MEETING II.—3RD NOVEMBER, 1882.

DR. GAIRDNER, *President, in the Chair.*

Dr. Wm. Dougan, Springburn, was elected a Member.

The Society agreed, on the suggestion of the President, to remit to the Council, with full powers, to take such steps as they might deem necessary, either alone, or in conjunction

with the Council of the Faculty, to institute a subscription for the purpose of assisting in defraying the expenses of two medical men in Greenock who had been subjected, on grounds decided to be utterly unreasonable, to a civil action for damages in connection with the death of a child while under chloroform.

DR. ALEXANDER PATTERSON read—"STATISTICS OF GLASGOW LOCK HOSPITAL FROM ITS FORMATION IN 1805 TO 31ST DECEMBER, 1881, WITH REMARKS ON THE CONTAGIOUS DISEASES ACTS, AND ON SYPHILIS." See p. 401.

Dr. Hugh Thomson said that he had doubts how far the statistics of such an institution as the Lock Hospital could be received as a measure of the rise and fall of prostitution in the city. The admissions to the hospital might be affected by causes which gave rise to changes in the distribution of the class of prostitutes over the city, or which changed the proportion of the class of avowed to that of clandestine prostitutes. The latter would probably seek to avoid the hospital, as they might fear that their residence might become known, and that they might thereby be subjected to police supervision. In regard to the diminished virulence of syphilis, he would attribute that to a great extent to improved modes of treatment. The disease was now-a-days treated largely by expectant methods, and not, as formerly, with a view to eradicating it. The latter mode had been shown to be bad, as, with the most thorough treatment possible, they had no guarantee that it would not return.

Dr. Robert Perry said that he had no doubt that these Contagious Diseases Acts would by and bye be rightly erased from the Statute Book. To his mind it had been clearly proved that they did more harm than good. In regard to Dr. Patterson's statistics of the Lock Hospital, he felt certain, as an old medical officer of the institution, that on one point they were liable to mislead. He referred to the deaths from syphilis. They would observe that the number of deaths was very small; but it would be wrong to take these as indicating the real fatality of syphilis. *That* really lay in its after association with other diseases; and they could ascertain its mortality only by tracing the after career of the patients. If this were done, it would be found that syphilis had a very considerable mortality. Of the fact that the type of the disease was much milder than formerly no doubt could exist. They now almost never met those cases of caries of the bones of the head and nose once so common. Those cases were really

combinations of syphilis and mercury; and the change in the treatment went far to account for the change of type. He coincided in the opinion that they could never be certain that the disease had been eradicated.

Dr. D. N. Knox said that, like *Dr. Patterson*, he had read *Dr. Buckland's* paper in the *International Cyclopædia of Surgery* on Senile Scrofula, and it had struck him at once the type of disease there described was syphilitic. At an early period of his practice he saw in the Western Infirmary a case in which a man's hand was absolutely riddled with holes, the metacarpal bones being mere shells, the whole of the medullary substance being reduced to a pulp. His opinion was, that the hand would have to be amputated; but *Dr. Patterson*, with his long experience, at once stated his opinion that anti-syphilitic treatment was indicated. This was accordingly done, and in a short time the patient was well. In another case sent in by *Dr. W. L. Reid*, the foot of an elderly woman was similarly bored through with numerous sinuses. The case had been sent in for the amputation of the foot; but detecting the analogy of the diseased foot to the hand formerly seen by him, he put her on anti-syphilitic treatment, with the result of a speedy cure. He was inclined to think that not a few cases set down to senile scrofula were really cases of tertiary syphilis, in which possibly the secondary symptoms may not have been so marked as to attract observation. In real senile scrofula he would expect a deeper implication of the glands than was usually met with in these cases.

Dr. Wm. L. Reid said that he could corroborate what *Dr. Knox* had stated about the second case referred to by him. At the same time, he had been quite unable to find a trace of syphilis in the case, either in the patient or her family. He could only say that she was cured by specific treatment. In regard to discharge in the male, he was satisfied that a discharge resembling gonorrhœa could be caused by a pathological discharge from the uterus. He had seen two cases in which a disease simulating gonorrhœa had resulted from a sarcoma of the uterus, which afterwards proved fatal. He felt sure that endometritis could give rise to a discharge of this kind in the male.

Dr. A. Macphée said that the subject of the Contagious Diseases Acts was one of difficulty, as a good deal could be said on both sides. *Dr. Patterson* had stated the case against the Acts with much ability; but he was satisfied that in regard to Glasgow he had presented the prostitution of the

city in too favourable a light. The Police Act had had the effect of breaking up the large brothels in the central districts, and had sent off their inmates to occupy smaller houses about the outlying districts and in various parts of the city. The 38 houses referred to in Captain M'Call's evidence were, he presumed, the whole houses of the class known to the police (though, if known, it was hard to see why they were not put down); but it did not include many houses in respectable localities in which prostitution was carried on in a manner not to attract police attention.

Dr. Clark said that it was impossible to believe that *Dr. Patterson's* statistics of the Lock Hospital could be taken as any criterion of the prostitution of the city, or of the extent of the venereal diseases. These figures represented a gradual diminution of the disease, in the face of a greatly increasing population, and this fact, in the face of it, was enough to discredit the figures as in any way being indicative of the amount of Glasgow prostitution or disease. During a few weeks, in which he had lately been doing duty on the Medical Mission Dispensary in Anderston, he had seen, probably, as many on an average as three cases a day of syphilitic disease. The paradoxical statement, that by examining the women under the Acts, they increased the amount of disease, was unintelligible and could not be received.

The President said that he had never been able to look on these Acts with any other feeling than one of suspicion, amounting almost to positive aversion. In that sense he had spoken before now; and though he had never seen his way to associate himself with those working for their repeal, he had continued all along of the same mind. The Acts were essentially founded on the same idea as that underlying the continental system—viz., that a certain amount of indulgence must be ministered to, as being absolutely necessary, and that by so ministering to it the evil will be circumscribed. No one could see the working of the system under *Bureau des Mœurs* in Paris and those of other continental towns without seeing that the idea was totally wrong. What the system did was—by admitting the idea of necessity which underlay it, and by placing under the control and protection of the State those engaged in the traffic to increase the facilities of education into corrupt manners and practices, and, eventually and purely, to increase the evil it was avowedly intended to criminate. Whether the view taken by *Dr. Patterson* of the beneficent operation of the Police Act was correct, was well worth discussion, and the arguments he had drawn from the

figures of the Lock Hospital were entitled to, and would receive thorough scrutiny. Indeed, no argument from figures should be received except under such conditions.

Dr. Patterson, in reply, said that in regard to the Contagious Diseases Acts it was to be regretted that the majority of the Select Committee, which had lately reported, was so much made up of Government military officials, who were scarcely likely to view the question impartially. The question how far clandestine prostitution had been increased by the Contagious Diseases Acts was one to which it was not possible to return an accurate answer. A question had been put to him by a legal member of the Select Committee as to what proportion avowed prostitution bore to clandestine prostitution in Glasgow. Of course he could not answer. Prostitution, when it came to be known, ceased to be clandestine at all. With regard to his statistics, they must take them for what they were worth. But how were they to explain the fact that at once, on the Police Act being put into operation in 1870, the number of patients in the hospital fell, and that the decrease had continued to this day? The suggestion made by *Dr. Thomson*, that clandestine prostitutes would not seek admission, was answered by pointing out that whatever reasons might weigh with them for keeping away were equally operative before as after the Police Act. But *Dr. Thomson's* reasons really did not exist. No question was asked at the patients as to their address. They might, if they chose, hide themselves under a wrong name, and the police took no cognisance whatever of the inmates. In regard to the state of Glasgow now, in comparison to what it was thirty years ago, the older members would bear him out in the assertion that the improvement was very great. At that time such streets as Glassford Street, Argyle Street, &c., were filled with brothels, lighted up at night from roof to basement. No man could traverse certain streets for many yards without being met by the most impudent solicitations. As to the decrease in the virulence of the type of syphilis, it was quite true that this might be partly due to improved treatment, but the better hygienic condition of the city had much to do with it. In these days, when syphilis was severe in type, the central districts were ravaged with epidemics of typhus, which had now all but disappeared. Epidemic remittent fever was also now and again a visitor. In the Select Committee he was asked whether in Glasgow they had ever epidemic or occasionally exaggerated types of syphilis? He replied in the negative. The evidence of *Dr. Macnamara* of Dublin was then

read over to him, in which it was stated that in Dublin they were liable to such aggravations of this type, and he was asked to say why they did not exist in Glasgow? His reply was that the reason probably was that the sanitary condition of Dublin was bad, while that of Glasgow was good. Dr. Reid's experience as to the gonorrhœa, or discharges resembling it in the male being due to non-gonorrhœal discharges in the female, was one which hardly coincided with his own. It was certainly a very rare thing to see a case of gonorrhœa which had not been got in the wrong way. In illustration of this position, Dr. Patterson related a case in which gonorrhœa in a married man, after a thorough investigation, had been traced by him to infidelity on the part of the wife, the case ultimately terminating in the Divorce Court.

M E D I C A L I T E M S .

UNDER THE DIRECTION OF

ALEX. NAPIER, M.D.

Actinomycosis (*Strahlenpilzerkrankung*). — This "new infectious disease" of man and animals has excited considerable attention among continental surgeons, veterinarians, and botanists for some years. Very full accounts of it are to be found in an article by Johne, in the *Deut. Zeitschr. f. Thiermedizin u. vgl. Path.*, Bd. vii, Hft. 3; in a monograph by Ponfick, published by Hirschwald, of Berlin; and a concise description of it and allied diseases is contained in an article on "Relation of Mould Fungi to Disease," by Dr. W. W. Gannett, in the *Boston Med. and Surg. Journal*, 31st Aug., 1882.

The disease, which is more common in cattle and swine than in the human subject, is due to the growth in the tissues of a special fungus, to which Harz (Munich), in 1877, gave the descriptive name *Actinomyces*, from the star-shaped clusters of large pyriform pedunculated conidia invariably found present. It has not yet been found possible to fix the botanical relation of the fungus, as no similar form has yet been observed outside animal bodies. It resembles *echinobotryum* more than any other hitherto discovered species, but differs from it in having pedunculated instead of sessile conidia.

Clinically, "the fungus is found in tumours of a precise, constant type, even microscopically characteristic. The typical characteristic of such new formations is the presence of yellow, soft, seldom puriform, tubercle-like nodules, the size of a pin-head or pea, which are imbedded in a fibrous stroma of variable density, sometimes isolated, at other times confluent in masses as large as a hazel or walnut, of yellow colour and cheesy consistence, in which the separate colonies are recognised as sulphur-yellow granular nodules. The tumours (*actinomycomata*) often resemble fibro-sarcoma, but closer examination renders their real character plain." (Johns.) That the fungus is the cause of the disease has been proved by inoculation experiments performed by Johns.

Clinically, as in malignant pustule, two types of the disease are met with—the local and the "general." "In the localised form the first appearance is that of an infiltration in the neighbourhood of the lower jaw externally. This very slowly assumes the form of a nodule, is circumscribed, rather dense, and scarcely, if at all, painful. After a considerable interval the nodule becomes softer, fluctuates, and is then opened by the surgeon," or bursts spontaneously. "The contents are a purulent fluid, containing the sulphur-yellow bodies, which are the fungus. The disease does not heal spontaneously as a result of the opening, but continues to discharge the fungus and pus, the cavity all the while enlarging." (Gannett.) In its general or internal form the disease runs a very chronic, but invariably fatal course. The precise symptoms of a case will necessarily depend upon the organ or tissue in which the *actinomycomata* are formed. They have been found internally in most of the internal organs, or rather in their submucous tissue, and in the prevertebral tissue, muscles, and skin, and as secondary or metastatic growths in the right heart, the substance of the lung, left ventricle of the brain, the brain substance, and in the spleen, kidney, and liver. When they form in the connective tissue there is a great tendency to the formation of long, ramifying sinuses, which open externally in many situations. Death is usually by "marasmus," and the course of the disease is remarkably apyretic. (Ponfick.)

Regarding the mode of origin of the disease little is known. From the frequent occurrence of the nodules about the mouth and pharynx, and the special frequency with which they occur at the roots of carious teeth, it is probable that the fungus is conveyed usually by food, though it is possible that in some of the cases where the disease originates in or near the respiratory passages the infectious material is inhaled. From

experiment it would seem that a breach of surface is required. Finally, as the disease has never been met with in carnivora, it is presumed that the spores or germs are conveyed on vegetable substances.

In the internal forms treatment is unavailing; in the external, free excision, or incision with destruction of the fungus by scraping, by chemical means, or the thermo-cautery, has been very successful.—*Centralbl. f. Chir.*, 1882, Nos. 15, 21, and *Boston Med. and Surg. Journ.*, vol. cvii, No. 9.—D. M'P.

Method of Masking the Odour of Iodoform.—In the course of an excellent paper detailing his experience in the Lock Wards of the Edinburgh Royal Infirmary, Mr. A. G. Miller mentions a method of masking the odour of iodoform, invented by Mr. C. Arthur, chief dispenser to the Infirmary. The formula is the following:—

R̄	Iodoformi,	.	.	.	ʒii.
	Ol. Eucalypti,	.	.	.	m. xv.
	„ Verben.				
	„ Mirbane.				
	„ Lavand.				
	„ Limon,	.	.	.	āā m. v. M.

This mixture does not interfere in any way with the use of the iodoform as a powder.—*Edin. Med. Journal.* Nov., 1882.

Treatment of Obstruction of Bowels.—Dr. J. D. Hunter, of Arequipa, Peru, gives a very interesting description of a case of this kind which he was able to relieve by a novel mode of treatment. The patient had got opium; the long tube passed into the rectum was tried, and a catheter also was introduced; but all with no improvement in the patient's condition. The distension was only temporarily relieved by puncturing the abdomen. As the distension seemed most pronounced in what might be the transverse and descending colon, a more thorough exploration was determined on. When the patient was well under the influence of chloroform he was placed on his left side with the knees drawn up; the tube and catheter having again been tried, and having failed, Dr. Hunter introduced his hand into the rectum, oiled of course.

“When the hand (length eight inches) had been fairly introduced, it was found to be comparatively free in a vaulted cavity without any apparent exit. Here I found the advantage of having frequently used my left hand in obstetrical operations. Upon careful examination I felt a slight projec-

tion, something like a soft but not prominent os uteri, with a central depression. Into this central depression I insinuated first one finger and then another until all the fingers were introduced in a conical form. I now proceeded slowly dilating and advancing, until I found my hand free in a large roomy cavity and in contact with a soft pultaceous substance; no hard lumps of any kind were felt. From the tip of the middle finger to the point where the arm was grasped by the anus measured sixteen inches. I now passed the long tube along the front of the arm and hollow of the hand; immediately there began to escape a dark green semi-fluid and flatus. I now withdrew the hand. The fluid continued escaping but slowly, so, remembering the effect of warm water upon the exhausted uterine muscles, we ordered warm water to be injected by the tube. The effect of this was most satisfactory—more and more of the always dark green fluid and gas escaping, partly by the tube, and partly by the side of the tube. Considering the excessive tympanites that had existed, it was astonishing to see the very large amount of this dark green fluid which was ejected. No scybala were expelled. The patient, as he was recovering from the chloroform, made voluntary expulsive efforts, increasing the amount ejected. The abdomen being now soft and flat, and the patient expressing himself as feeling better, the tube was withdrawn."

After this the patient's progress towards recovery was uninterrupted.—*The Practitioner*. October, 1882.

Phlebitis and Thrombosis of the Lateral Sinus.—Dr. S. Moos, in an article in the *Ztschr. f. Ohrenheilk.*, xi, 3, entitled "Oedem in der Schläfen-und Jochbeingegend als ein Symptom von Phlebitis und Thrombose des Sinus Lateralis," refers to the importance of oedema in the region of the temporal and zygomatic bones as a symptom of phlebitis and thrombosis of the lateral sinus. He thinks the symptom is probably rare, because the anatomical condition of its genesis are of the nature of bone development, and therefore exceptional. Where this symptom occurs we must consider in our diagnosis the existence of abscess of the brain, cerebral oedema, meningitis, and phlebitis, and thrombosis of the lateral sinus. If brain abscess be present, an acute stage with convulsions, or rapid paralysis, must be expected. If the lesion is cerebral oedema, we should expect a cephalic pulse. The most common cause would be, however, meningitis, complicated by phlebitis and thrombosis of the lateral sinus. *New York Medical Journal*. Oct., 1882.—J. A. A.

A Special Form of Muscular Atrophy.—From the observation of certain cases in the Hôtel Dieu, M. Talamon has come to the conclusion that there is a special form of progressive muscular atrophy which completely differs clinically from the general type, a form called by the Germans hereditary atrophy, and which he proposes to call Friedreich's atrophy in opposition to Aran-Duchenne's. This atrophy always commences in the sacro-lumbar masses and in the inferior extremities. It is essentially hereditary. It resembles pseudo-hypertrophic paralysis in the localisation of the muscular lesion, whence certain analogous symptoms, lumbar curvature, swaying motion, and waddling gait. It remains to be proved whether this disease is due to the lesion already established in the ordinary cases by Charcot.—*La France Médicale*. 1st August, 1882.—G. S. M.

A New Styptic of Indigenous Growth.—Professor Quinlan, of Dublin, brings into notice another of the old remedies of indigenous growth, which seem to be revived in considerable numbers just now. This is the *plantago lanceolata*, or ribbed grass, "commonly known (in Scotland) as 'bullies' or 'sodgers,' the striking off the heads (or spikes) of which is such a favourite amusement of children." His attention was drawn to it by the success with which it was used by a countryman in the treatment of a case of bleeding from leech bites which had almost proved fatal in a child. Since that time he has used the leaves externally with great success in cases of hæmorrhage suitable for styptics. In cases of bleeding from the lungs, bowels, kidneys, and in menorrhagia, he has got very fair results from large and repeated doses of the juice, either fresh or fortified with alcohol or glycerine. He uses (1) the dried leaves; their action much resembles that of matico. (2) A species of external linctus, comprising the leaves pounded in a mortar, with glycerine added to preserve them. (3) The juice, with sufficient alcohol to prevent it spoiling. This is for internal use, and has a hot, astringent, but not disagreeable taste. (4) The juice with glycerine. (5) A green extract, made in the ordinary way. With this no very satisfactory results have been obtained. This plant contains no tannin; its hæmostatic properties must, therefore, be due to some other vegetable principle.—*Pharmaceutical Journal*. 9th September, 1882.

The Cause of Looseness of the Joints in Rickets.—In the *Centralbl. f. Chir.*, 1882, No. 24, Dr. Kassowitz (Vienna)

gives the results of numerous histological observations on ricketty joints. He finds the epiphysial cartilage thickened and softened by the over-abundant supply of plasma deficient in lime salts, due to the cartilage being permeated by numerous dilated, weakened blood-vessels. This condition of "inflammatory hyperæmia" obtains also in the newly formed bone, and in the inner layers of the perichondrium and periosteum, as well as in the attachment of the capsule and other ligaments of the joints. There is deposited between the cartilage and perichondrium, and between the bone and periosteum, and infiltrated among the fibrous bundles of the ligaments, &c., a very vascular, embryonic tissue ("granulation tissue") which, by its presence, weakens the connection between the bone and cartilage and their fibrous covering, as well as between the ligaments and the hard parts, and also causes a softening and partial destruction of the tissue of the ligaments at and near their insertion. Kassowitz attributes the looseness of the joints to the stretching of these weakened fibres, and possibly to the rupture of a certain proportion of them by the movements of the joints, and he holds that in acute rickets the pain on movement, or the inability of the patient to stand or walk, is due to the pain caused by the strain of these inflamed ligaments upon the inflamed bone and cartilage, and to the want of resistance in the ligaments.

In many cases of hereditary syphilis he has found the same condition present in the ligaments, and has found the same infiltration and degeneration present in the fibres of insertion of such muscles as are inserted directly into bone, *e. g.*, at the upper end of the ulna and lower end of the humerus.—D. M'P.

Treatment of Corns and Warts.—At a meeting of the American Dermatological Association, Dr. Jas. C. White stated he had treated fifty cases, without a single failure, by applying twice daily the following combination:—

Extract of Cannabis Indica,	10 grains.
Salicylic Acid,	30 grains.
Collodion,	1 ounce.

Boston Med. and Surg. Journ. 2nd Sept., 1882.—D. M'P.

[We have treated several cases of corns successfully by means of this application.—A. N.]

Apomorphia as an Emetic—Dr. W. G. Stark had lately to do with a case in which a man had swallowed his plate of

artificial teeth, measuring $2\frac{1}{2}$ by $1\frac{1}{4}$ inches. It still remained in the oesophagus, but out of reach or sight, gradually working down in spite of the man's efforts to prevent it. Dr. Stark immediately injected hypodermically into the arm one-eighth of a grain of apomorphia, which produced free emesis in six minutes, and also removal of the plate.

In a case of morphia poisoning the patient, a woman, though rapidly becoming insensible, would give no information as to amount of dose, and declined to take any antidote. Here one-eighth of a grain of apomorphia hypodermically produced free emesis in eight minutes, and the case gave little more trouble.—*Canada Lancet*. October, 1882.

Paroxysmal Hæmoglobinuria.—Dr. Saundby sums up a paper on this subject as follows:—

1. Paroxysmal hæmoglobinuria occurs at all ages, but most commonly in young persons.

2. It affects both sexes, but males more frequently than females.

3. It is in some cases distinctly hereditary.

4. The exciting cause of an attack is almost invariably a chill; though in a few cases the first attack has undoubtedly been induced by a blow, yet the subsequent attacks have been brought on by exposure to cold.

5. Its relation to ague is exceptional, and not well made out.

6. It is not specially associated with any known diathetic tendency (*e. g.*, rheumatism, gout, scrofula), or with any specific disease (*e. g.*, syphilis).

7. There is strong reason to believe that functional disturbance of the liver is present in many cases.

8. Enlargement of the spleen has been noted, but is exceptional.

9. During attacks the temperature may vary from normal, or even subnormal, to a high degree of fever (105° F.)

10. The skin may be covered by profuse perspiration, or this may be restricted to certain parts, or it may be dry.

11. The skin may be jaundiced, or of a peculiar dusky hue, during and after the attacks.

12. The serum of the blood during the attacks has been shown to contain hæmoglobin (Hayem).

13. The microscopical characters of the blood are those of slight anæmia.

14. The urine during the attacks always contains hæmoglobin or met-hæmoglobin, serum, albumen, paraglobulin, granular and hyaline casts, and urates.

15. The urine between the attacks may contain traces of albumen or hæmoglobin, or both.

16. The prognosis as to recovery from each attack is good, no fatal case having occurred.

17. While a spontaneous cure has been recorded, as a rule the liability to relapses persists.

18. No drug influences the liability to relapse; but during the paroxysms quinine has seemed of most service.

19. Residence in a tropical climate affords the best prospect of warding off future attacks.—*Med. Times and Gazette*. 4th March, 1882.—G. S. M.

Lead Paralysis Affecting the Supinator Longus.—Dr. Ernest Gaucher has communicated to the Clinical Society of Paris two cases, in each of which there was bilateral paralysis of the extensors and also of the long supinators. The first was that of a type-founder, 21 years of age, who, during eight years at that employment, had had five attacks of lead colic. There was no other paralysis, sensory or motor, and nothing to indicate cerebral or spinal disease, and he had not suffered from compression of the radial nerve. He was treated by sulphur baths, the syrup of the iodide of iron, and electrification. Improvement was slow, but the supinators recovered more speedily and more completely than the extensors. In the second case, a painter, 30 years of age, who had had seven attacks of lead colic in six years, the paralysis of the extensors was complete, while that of the supinators was incomplete. The paralysed muscles, and even those of the arm and of the shoulder which still preserved the power of movement (especially the deltoid), were commencing to atrophy. There was no other paralysis, no tremor, no anæsthesia, and no sign of cerebral mischief. In both cases Dr. Gaucher could attribute the affection to lead poisoning only.—*La France Médicale*. August, 1882.—G. S. M.

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